MIDWIFERY PRACTICE IN A RURAL AREA,

WITH AN ACCOUNT OF A SERIES OF CASES.

T H E S I S

submitted for the

M.D. EDINBURGH

by

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life led by the people, and to the fact that they are able to obtain fresh milk, butter, eggs and a sufficiency of fresh meat and vegetables in their dietary.

The houses are in many cases old, and not up to modern standards with regard to construction or sanitation. Modern sanitary conveniences are found in some of the villages, and in the larger farm-houses and country residences, but in the farm cottages and the smaller isolated hamlets the old-fashioned privy-midden is the rule. During recent years there have been numerous conversions from dry closets to the water-carriage system, and it is hoped that the conversion will continue steadily until the privy-midden and pail-closet are things of the past.

Many of the cottages are small, and in most instances sleeping accomodation must be provided in the kitchen, which, in addition to its rightful use, is the living room of the house. Many of the cottage confinements are conducted in this apartment. Fortunately, nowadays, the old-fashioned unhealthy box bed is rarely met with.

The water supplies are mainly good and adequate. Water is not laid on to the houses, except in the villages and the larger houses. In many cases it has to be carried considerable distances from wells and springs. In the

cottages hot water can only be obtained by heating it on the kitchen fire.

There are very good roads throughout the district, which is traversed from north to south by the Great North Road. Roads to the remoter farms and hamlets are rough, and not well adapted for motor traffic. In a few cases there are no proper roads to the very remote hamlets, and it is necessary to proceed to these on foot from the nearest good road. Visiting of patients in the winter time is often a difficulty, and one has frequently to contend with snow-blocked and icebound roads. The most inaccessible part of the practice is Holy Island. In order to get there, one must drive a distance of three miles across the sands at low tide. An urgent message at high tide involves a journey by boat.

The telephone service has been greatly improved during the last ten years, and this has made the transmission of urgent messages a very much easier matter than was formerly the case. It also enables the doctor to find out particulars about a sick person before setting out on his journey, and often enables him to take some appropriate remedy or necessary dressing or appliance, which would otherwise have been left at home.

The rural practitioner sees most of his patients in their own homes, and the large "surgeries" seen in town and industrial practices are non-existent. This, I think, is an important point, for it allows the doctor to see the home conditions of his patient, and to realise the difficulties to be overcome in the treatment and nursing of a sick person in a small cottage. It enables him to adjust his instructions as to treatment, dietary and nursing, so that they may be as effectively carried out as possible under the circumstances. It also permits the doctor to observe the conditions of life of the cottage mother. She is the hub round which the whole household revolves. She is up early in the morning, often times before sunrise, toils all day, cooking, washing, mending and sewing for her family, and is generally the last to retire at night. It would be a difficult matter to find a more worthy woman than the good cottage mother, and it behoves us as country doctors, to give her at all times our best services, especially when she is pregnant, during her confinement and afterwards.

The great majority of practitioners of medicine in this country are engaged in general practice; many of them situated in rural areas of the type I have endeavoured to describe.

The rural practitioner can, I think, properly be called the "Family Doctor." The "Family Doctor" is a time honoured

institution in this country, and I very earnestly hope that he may long continue to occupy his important place in our social and family life.

The "Family Doctor" is the general practitioner who engages in medical practice in a locality, and devotes his life and energy to the medical well-being of the community. He is the friend and confidant, and takes medical charge of the family, from the beginning to the end of life. He superintends the mother's health before her baby comes, attends to her during her labour, looks after her during her puerperium and keeps an eye upon the offspring during his or her lifetime. He is consulted on all matters pertaining to the health of the family, and undertakes the treatment of their ills so far as his abilities permit. He should be one who can recognise his own limitations with regard to diagnosis and treatment, and be able at any time to state quite definitely when a second opinion from a specialist is advisable in any case. He should be able in his work to impart both physical and psychical comfort to his patients and their friends, and when the end of life comes, he is the person to whom those that are bereaved can confidently look for sympathy and understanding in their time of trial.

The "Family Doctor" should be a man with a wide outlook on life in general, and a spacious knowledge of the things

pertaining to the practice of medicine in particular.

In order that the young practitioner may acquire this knowledge which cannot be obtained within the precincts of a teaching school, it is essential that he should for a time be associated with a senior colleague of ripe experience. By so doing he will learn much that will enable him to become a successful "Family Doctor." In this respect I have been singularly fortunate in the fact that I have been, and am, associated in practice with my father, who has for forty years been engaged in practice in this locality, and who has attended many of the parents and grandparents of those people, whom it is my lot to look after now.

The "Family Doctor" regards his patients, not as "cases" but as "individuals." In order to do so he must "get ben" with them, understand their mode of living and their outlook on life, find out their peculiarities, and study them in their homes. When he does so, he will realise that in very many instances it is not a "disease" which he has to treat, but a "person." This will enable him to obtain the confidence and respect of his patients, without which successful medical practice cannot be carried out.

The practice of medicine in a rural area is almost wholly conducted by the general practitioner. Those encroachments upon general practice, about which we hear so much at the present day, have not as yet permeated to any great extent

to rural areas. A child and infant welfare clinic has recently been commenced in this village, and is being fairly well attended by those in the village and within a radius of two to three miles. There are no ante-natal, post-natal, tuberculosis or venereal clinics in rural areas. The distance to be covered by those attending, is the great drawback to the success of the clinic in such an area as this. The place of such clinics is taken by the "Family Doctor."

There are no practising midwives in this area, so that midwifery is carried out by the "Family Doctor." There are certified midwives, as cottage and district nurses, but as will be described later, they do not conduct maternity work apart from the doctor in charge.

The "Family Doctor" examines and treats all cases as they occur in their homes, and if he considers it necessary he may refer any case for specialist advice or treatment to the nearest large centre which is fifty miles distant. Under these circumstances the country doctor is thrown much more upon his own resources, than is his brother practitioner in the town, who can quickly get assistance from his specialist confrère. In these present days, however, the telephone, the motor car and the motor ambulance have very greatly facilitated the obtaining of specialist assistance quickly, and the rapid transport of needy patients to hospital or nursing home in the town.

It is generally accepted that the successful conduct of midwifery constitutes a most important factor in the physical welfare of the country at large. It entails not only the maintenance of good health in the child-bearing woman, but the preservation of the health and life of the new-born child. The children born to-day will be the parents of those born in the next generation, and so it is incumbent on us as doctors to safeguard the health and life of the young people to-day, so that we may ensure the rearing of an "A.I." nation. This ought to be the main object of our profession at the present day, and it can be obtained by building on a sure foundation, viz: sound midwifery, ante-natal, intra-natal and post natal.

In rural areas such as this the vast majority of confinements take place in the patients' homes, unless there is some special reason, such as an obstetric abnormality, for the parturient woman being transferred to a maternity hospital or nursing home at a distance. Very occasionally the country mother expresses a desire to go to hospital for her confinement. She prefers to remain at home and there is no doubt that there is a very profound psychical effect in her so doing. The home is the natural setting for a baby, and during her months of waiting during pregnancy,

the mother has been preparing for the arrival of her baby in all sorts of ways. It is only natural, therefore, that she should wish the baby to be born under the parental roof.

It is obvious, therefore, that the rural practitioner gains considerable experience of "midwifery in the home", and in order to carry it out successfully he must pay particular attention to careful ante-natal examination, efficient aseptic and antiseptic technique at the time of labour, and proper supervision of the mother and baby after parturition.

It is quite apparent that expectant mothers have become more aware of the importance of ante-natal supervision during the past decade, and they generally engage the doctor during the first half of pregnancy. They have realised that this is the only way to ensure a healthy pregnancy, a healthy baby at birth, and to avoid what might otherwise be a preventible calamity at full-term.

HISTORICAL.

The reproductive function has existed from the earliest days of the human race, and one is justified in concluding that midwifery as an art has been recognised since the beginning of time.

When we search the pages of medical history, and those of midwifery in particular, we find that the history of obstetrics can be roughly divided into two ages:-

(i) Prior to the 16th century.
(ii) From the 16th century to the present day.

Until the beginning of the 16th century the practice of obstetrics was mainly empirical. It was founded on experience and superstition, and was in great measure destitute of an anatomical or physiological basis. Such practice is still seen among the uncivilised races whose procedures resemble those adopted by the ancients. During the empirical period we find that the ordinary practice of midwifery was in the hands of women. At first female friends and neighbours would perform what kindly offices they could for the lying-in woman, and soon a distinct class of midwives arose, whose experience and special aptitude fitted them for the work. All ordinary labours were attended by them, and they did not yield up a difficult case to the surgeon or physician until they had exhausted a code of practice, partly reasonable as founded on experience, partly superstitious, but often very

elaborate. When their resources failed, the aid of the male practitioner,who combined the offices of priest and physician, was usually invoked. At first the aid from him was largely based on superstition, consisting of charms, incantations and invocations of special deities.

Eilithyia among the Greeks and Lucina among the Romans were the chief deities presiding over childbirth, and among the Romans a number of minor deities were regarded as specially available for special complications. As time went on, and medical knowledge developed, the double office of priest and physician became separated, and the physician became a separate functionary who rendered much more practical aid.

The writings of Hippocrates (400 B.C.) contain the earliest attempt to formulate a practice of obstetrics. These show keen observation and shrewd judgement, but were greatly marred by his imperfect anatomical knowledge. His teaching, however, remained practically unquestioned for over three hundred years, until the study of anatomy in Alexandria under the Ptolemies seemed to clear up many of his errors, and so advance the art. As a result of this advance, the Greek physicians, chief of whom was Soranus (98 - 137 A.D.), made great advances in the art of obstetrics,

Soranus showed a knowledge of obstetrics which was a long way ahead of Hippocrates, and whereas the latter insisted that the only safe method of delivery was by a head presentation Soranus demonstrated that foot and breach presentations were safe. He also recommended and described the operation of podalic version in suitable cases. He showed the importance of posture in difficult labours, and gave careful instructions for the performance of various destructive operations.

After Soranus came Galen (131 - 201 A.D.), who gave an account of obstetric art as it existed at that time, but whose anatomy was very defective as compared with that of Soranus. His teaching and opinions seem to have largely influenced the Persians, and through them the Arabs, for their practice all through the Middle Ages seems to have been founded on Galen. During this period medicine appears to have been at a high level of excellence in Persia, where Avicenna (980 - 1037) and Albucasis (1013 - 1106) were celebrated surgeons and obstetricians. In the writings of these two men we find the first mention of obstetric forceps. The latter improved on the forceps of the former, and made two kinds of forceps, the short or "misdach" and the long or "almisdach." These forceps are described as having a sharp beaked point at the extremity of each blade, and projecting

teeth on the internal surface, so that it is difficult to see how they could have been used without seriously damaging the child's head. In spite of this they seem to have been used for extracting the child alive, as well as for crushing the head when it was too large to pass through the pelvis.

After the Persian era alluded to, the obstetric forceps appear to have been entirely forgotten until the days of the Chamberlens to be described later.

Albucasis should also be noted for his work in connection with posture in labour, and first described the useful manoeuvre we now know as the "Walcher position."

Probably about the fourth century Moschion wrote "Peri ton Gunaikeiton Pathon", which is sometimes called the first obstetric book published. It is based on Soranus, and shows a much sounder anatomical knowledge than Galen possessed.

From this time till the beginning of the 16th century, it may be said that obstetrics made no progress. Indeed with the fall of the Roman Empire, this, like other arts and sciences fell on evil days, and the knowledge was in great measure lost. The practice of midwifery degenerated and gradually passed into the hands of the lowest and most degraded women. All trace of the earlier teaching was lost with the knowledge of the anatomical principles on which it rested. Practice was regulated by the grossest superstition and ignorance

and the male practitioner was never allowed to enter a lying-in room save as a last resort. Indeed the practice of midwifery by men was for many centuries in Europe regarded as a crime and an offence against morals; and so late as 1522 Weitt of Hamburg, who donned female attire in order to permit his attending and studying a case of labour, was detected and publicly burned at the stake. A hundred years later, Dr. Willoughby, an Englishman, whose daughter was a midwife, crawled into a darkened room on his hands and knees in order to assist her at a difficult labour!

Nothing can have been more deplorable than the state of obstetric practice during this period, and the suffering and mortality resulting from this condition of affairs could not easily be estimated.

The first indication of a new order of affairs is found in the training of midwives in the Medical School of Salerno about the beginning of the 16th century. Sometime previously this school had inaugurated the study of anatomy, and the light shed thereby had its influence on the dark and degraded practice of obstetrics. Progress was however slow, and its practice still largely remained in the hands of women to whom clung the superstition of the dark ages. Yet in the hands of anatomists like Vesalius (1514 - 64), Fallopius (1523 - 62), Berengarius (1470 - 1550) and surgeons such as Pare (1510 - 90),

a scientific basis was again being laid, and the knowledge of Soranus and Moschion being rediscovered. At this time while all ordinary labours were being managed by women, the surgeons were called in to assist when a difficulty arose. By and by, especially in France, the practice of obstetrics by surgeons gradually gained ground, though there, and still more elsewhere, its practice by men lay under a reproach.

The invention, or rather the rediscovery, of the obstetric forceps by the Chamberlens in England about the beginning of the 17th century gave a great impulse to the art, and in 1668 Mauriceau, the famous French obstetrician published his "Treatise", which was for long the standard work on the subject. It was translated into English by Hugh Chamberlen in 1672, and it appears that about this time in this country men began generally to engage in the practice of midwifery.

In the history of midwifery in this coutry the Chamberlens occupy a position of first importance. Prior to their day the practice of British Midwifery was largely in the hands of women, and largely as a result of the position and practice obtained by them, the practice of midwifery was rapidly taken up by men under the titles of "men-midwives," "mid-men," "physician-" or "surgeon-men-midwives," "extraordinary men midwives," or "andro-boethogynists."

The Chamberlens kept the obstetric forceps as a family secret for over one hundred years. It was in 1733 that the secret leaked out, and men very rapidly took up the practice. As discoverers of the forceps, the name of Chamberlen is immortal, though its lustre is somewhat tarnished by the secrecy which they maintained for a century with regard to the forceps - the most beneficent of surgical instruments.

William Harvey (1578 - 1657), the famous English physician of the 17th century, who described the circulation of the blood - the greatest physiological discovery of all times - not only published his great book, "De Motu Cordis" in 1628, but in 1651 he published "De Generatione Animalium." The chapter on labour ("de partu") in that work was the first original work on midwifery to be published by an English author, and justifies the description of Harvey as the "Father of British Midwifery." Unlike the Chamberlens, Harvey was not a keeper of secrets, but a searcher after the secrets of nature by observation and experiment. It was especially Harvey's advocacy of gentleness and patience in the conduct of normal midwifery in imitation of nature, which formed the guiding spirit of British obstetrics thereafter. During the following century and a half there were many very talented obstetricians in Britain, who carried on the beneficent work instituted by Harvey. The more famous men of this era were

the two Scotsmen, William Smellie (1697 - 1763), William Hunter (1718 - 1783), the Irishman, Sir Fielding Ould (1710 - 1789) and the Englishman, Thomas Denman (1783 - 1815).

Smellie was a typical Scot, who has been described by Spencer as the greatest of British obstetricians, for without powerful friends to help him and without the advantages of a hospital clinic, but attending and teaching in the homes of the poor, by sheer devotion to his art, he raised himself to the foremost position in his profession, which he enriched by many original contributions. Smellie, like Harvey, based his midwifery on a study of nature, and made the study of the maternal pelvis and the foetal head an essential part of his teaching. His observations on the mechanism of labour form the basis of our knowledge of the subject. He was the first to study labour in contracted pelves, and was the first to apply forceps to the after-coming head.

The "Smellie-grip" which is so frequently and effectively used by us to-day in the delivery of the head in breach cases, was first of all described by him in his "Treatise" in 1764. Smellie's great improvement on the obstetric forceps was his introduction of the "Smellie lock," which has been used up to the present day for the fixation of the blades of the forceps.

William Hunter who was a pupil of Smellie's, carried on his famous teacher's methods, and was a great anatomist in

relation to obstetrics. He in turn so influenced his younger brother John that he became one of the greatest surgeons of all time, through his assiduous study of anatomy.

The midwives had long inveighed against men practising a branch of medicine which they regarded as peculiarly their own, and many were the scurrilous and shameless attacks made on the men. One notorious midwife, Mrs Elizabeth Nihell, surpassed many of her friends and bitterly attacked Smellie, whom she styled "a great-horse-godmother of a he-midwife." She drew an amusing picture of him "with his figure softened by his nightgown of flowered calico, and his cap of office tied with silk and silver ribbon."

By the end of the 18th century, however, the opposition of the midwives had died down, and in 1797, Martha Mears, "practitioner of midwifery", living in Red Lion Square, in her book, "The Pupil of Nature", speaks with heartfelt rapture in praise of Harvey, Smellie and Denman.

The science and art of obstetrics thus made great advance in the 17th and 18th centuries, due chiefly to the introduction of male practitioners, many of whom were men of learning and devoted to anatomy, the groundwork of obstetrics. The institution of lying-in hospitals by these male practitioners had an important influence in promoting teaching and research.

The general introduction of the use of forceps placed in their hands means of delivering women previously unknown, and by its results gradually overcame the opposition of the midwives, and those general physicians and surgeons who also had regarded the men-midwives as upstarts.

The characteristic of British midwifery at this period was conservatism; forceps were sometimes used unnecessarily then as now, but no better corrective of that abuse could be prescribed than a study of the careful records of the British obstetricians of the 17th and 18th centuries, showing the resources of that "perfect operatrix" Nature, in effecting delivery.

By the beginning of the 19th century the science and art of obstetrics was clearly established on a sure foundation. Puerperal Fever had been long recognised as a very common cause of maternal death. In 1773 Charles White (1728 - 1813) of Manchester wrote an obstetric treatise in which he pleaded for surgical cleanliness in obstetrics and pointed out its advantages. He is therefore the pioneer of aseptic midwifery. However, Oliver Wendell Holmes (1809 - 94), in 1843 read to the Boston Society for Medical Improvement, his paper on "The contagiousness of Puerperal Fever", and in it first of all advocated the use of antiseptic principles in midwifery. He pointed out that the disease could be carried from patient to patient, and from a

case of erysipelas, and also affirmed that parturient women should never be attended by physicians who had been conducting post-mortem examinations. He showed that the washing of the hands in calcium chlorinata and changing the clothes after leaving a case of puerperal fever, were likely to be preventative measures.

Semmelweis (1818 - 65) in Vienna adopted the same precautions as described by Holmes, and was able to reduce the mortality in labour cases in hospital from 9.92% to 1.27% in two years. He it was who recognised Puerperal Fever as blood-poisoning or septicaemia. Both Holmes and Semmelweis met with fierce oppositio from their colleagues, but eventually their opinions prevailed, and there is no doubt that they were the pioneers of antiseptics in obstetrics. Semmelweis is one of Medicine's martyrs, for he so brooded over the violent controversy regarding his theories and practice, that he became insane and died at the early age of 48.

In 1870 Lister's (1827 - 1912) great discovery of the antiseptic action of carbolic acid began the antiseptic era in surgery which during the last sixty years has been the means of preserving countless lives. Lister's name will live for ever as one of the great benefactors of the human race. In obstetrics Semmelweis was Lister's forerunner, and in 1883, the latter very generously admitted this fact. The first obstetrician to adopt Listerian methods was Tarnier of Paris in 1881, when he used carbolic acid solution in his practice. Tarnier is also famous as

inventor of the well-known axis traction forceps.

The employment of chloroform anaesthesia by Sir James Young Simpson (1811 - 70), Professor of Midwifery in Edinburgh Universit constituted a remarkable step forward in obstetric practice. He used chloroform in labour in 1847 for the first time, and from that day to this the careful use of anaesthesia in labour has been one of the greatest blessings to the parturient woman.

The employment of antiseptics and anaesthetics in obstetrics are the two outstanding landmarks in the art during the 19th century, and along with the judicious use of the forceps, comprise a great trinity of blessings for the lying-in woman of all times.

Antiseptics and anaesthetics have enabled surgery to become the comparatively safe art that it is to-day, and whereas they are most useful in the conduct of normal labour, they have made Caesarian Section and other obstetric operations a very safe method of delivery, in those cases which in former days were regarded as hopeless.

With the scientific advances in the art of obstetrics already mentioned, the conduct of labour in this country has passed into the hands of thoroughly trained medical men who, following in the footsteps of Harvey and Smellie, have their training based on a sound anatomical knowledge. The establishment of maternity hospitals enabled nurses to be trained in the correct conduct of labour, and so gradually the ignorant midwife of the past was

replaced by the trained woman. Her anatomical knowledge is not nearly so exact as that of the medical graduate, nor does she have the wide knowledge of physiology, pathology, medicine and surgery of the doctor. However, she has a trained working knowledge of the female frame and genitalia, and can with practice become competent to undertake the management of normal labour.

It is an interesting study to survey the history of the midwife from the earliest days. From earliest times woman has always turned to her woman friend for help in times of trouble, anxiety or illness. It was only natural, at such a momentous occasion as childbirth with all its physical pain and mental anxiet that she should turn to one with sisterly sympathy and understandin As a result, there gradually evolved the matronly woman with experience, who became the recognised midwife. Her training was purely empirical. We still, very occasionally, find this type of woman in country districts. She is the "village howdy", and she is always in the offing when there is a confinement in her vicinity. Fortunately this type of "assistant" has almost disappeared, and has been replaced by the fully trained woman.

Apparently the first supervision which was exercised in this country over midwives was by the Church, and licenses were granted by the bishops to suitable persons. Traditionally Bishop Bonner (1554) was the first to grant these licenses. Applicants for licenses had to be members of the Church, must

bear good moral characters, prove that they were efficient at the art of obstetrics, and become instructed by their vicar in the correct procedure of emergency infant baptism, before they could become licensed to practice. At Perth in 1611 we read that two midwives were admitted at Kirk Session.

Following the advent of Harvey and the Chamberlens, when men assumed the practice of midwifery, they similarly were obliged to receive licenses to practice midwifery from the Church, and we find that in 1600 Peter Chamberlen(Junr.) was licensed by the Bishop of London.

After men-midwives became more general, the practice of obstetrics made great advances as has already been described, and on numerous occasions appeals were made to the King that some order might be settled by the State for the better instruction and civil government of midwives. The bishops' former control gradually waned, and in Norwich for instance no bishops' licenses were issued after 1786.

During the eighteenth century the institution and growth of maternity hospitals took place and this enabled women to receive efficient training at the hands of the great teachers of thatdday.

In the nineteenth century the various medical and surgical schools insisted on the thorough training of their students in midwifery before qualification, and various societies were

instituted for the training of midwives, the most important being the Obstetrical Society of London, which granted a diploma to those who satisfied the examiners.

After many vicissitudes, and due to the gradual advance of both professional and public opinion, the Midwives Act (1902) became law and commenced to operate on 1st. April, 1903. By this act the Central Midwives' Board was instituted, which grants certificates to practise midwifery to thoroughly trained women.

During the present century the most important advance in the obstetric art has been the recognition of the great importance of ante-natal care. In this particular respect, we graduates of Edinburgh University are proud of the pioneer work of the late Dr. John William Ballantyne, (1861 - 1923). He emphasised the far-reaching importance of careful ante-natal supervision as a means of avoiding possible disasters at full-term to both mother and baby, and of safe-guarding the health of both after delivery.

Ante-natal care was enthusiastically taken up by the profession and to-day it constitutes a sine qua non of safe midwifery. No one who engages in the practice of midwifery can afford to neglect the ante-natal care of his patients, so that they may have an opportunity of coming unscathed through the ordeal of labour and the puerperium.

Strictly speaking the phenomena of pregnancy, parturition and the puerperium are normal and physiological, and as such, under natural conditions, should not cause any undue ill-health. These phenomena, however, set up in the female a condition of physiological tension, which at any moment may pass over to a pathological state. The great danger in obstetrics always is that what is physiological may at any moment become pathological and an immediate danger to life. The great aim at all times in obstetrics should be to maintain the physiological and overcome any tendency there may be towards the pathological.

When we survey the maternal mortality statistics in this country, we find that, in spite of all the advances made in the art and science of obstetrics, there has been no appreciable diminution in the number of deaths due to childbirth during the last twenty years. In 1911 the number was 4.91 per 1000, and in 1929 it was 5.82 per 1000 live births.

This fact, which has been fully recognised by the Ministry of Health and by the medical profession at large, especially through the agency of the British Medical Association, has led in recent years to attempts being made to formulate some scheme which would so co-ordinate the existing maternity workers in this country, so that maternity work as a whole might be more successful than it has been in the past, and the

maternal mortality very greatly diminished if not entirely abolished. This latter ideal is probably unobtainable, but this ought to be the ultimate aim of all our maternity work.

With this end in view, the British Medical Association in 1928 adopted the "Memorandum, outlining a National Maternity Scheme for England and Wales," the aim of which is the provision for every pregnant woman of the services of a midwife and doctor, the latter taking the responsibility, ante-natal, natal and post-natal for the case, attending at the confinement if thought necessary, or if desired by the patient; or if sent for by the midwife on her finding some abnormality. The scheme is based on three sound principles:-

1. The normal case can be safely treated at home.
2. Maternal mortality and morbidity can be very greatly reduced when proper ante-natal care and supervision is provided in all cases, together with institutional accomodation for cases of complicated labour.
3. Maternal morbidity can be greatly reduced with proper post-natal care and treatment.

In this scheme it is proposed to utilise the services of the practising doctor ("the family doctor") and midwife with as little additional machinery and institutional accomodation as possible. Provision is made for attendance by a doctor and a midwife at a stage when such attendance is considered essential. Both doctor and midwife are apportioned their proper share of the responsibilty, and the services of each are intimately inter-related. The scheme postulates that the doctor should be booked early in pregnancy, and his

services retained; that the doctor should conduct at least one ante-natal examination, and more if he thinks it advisable as a result of his first examination; that the midwife must inform the woman of her right to, and the advantages to be gained from, an ante-natal examination by her chosen doctor. The scheme encourages every woman to submit herself to at least one post-natal consultation, and if necessary examination by her doctor.

The scheme envisages the pregnant woman engaging the services of a midwife at an early stage of pregnancy; care by the midwife from that time throughout pregnancy; an immediate reference to her doctor if any abnormality whatever is found, and an ante-natal examination by the doctor, not later than the 36th week of pregnancy. The scheme thus provides for (1) efficient ante-natal care, (2) attendance on every case by a certified midwife during labour and the puerperal period, (3) attendance by the practitioner chosen by the patient - the "Family Doctor"- during pregnancy, labour and the puerperium, when such attendance is requested by the midwife, or when as a result of his ante-natal examination, the doctor has declared his personal attendance to be necessary, (4) the provision in every case of at least one post-natal consultation or examination if required. (5) The services when necessary of a second practitioner,

e.g. to administer an anaesthetic. (6) The services of a consultant when considered necessary at any stage. (7) The provision of institutional treatment where necessary. (8) The supply of sterilised obstetrical dressings. (9) Ambulance facilities where required.

The scheme as formulated would apply to all women of the class who are either insured themselves under the National Health Insurance Act, or whose husbands are so insured, and to those others who, though uninsured, are in financial circumstances similar to those of insured persons.

The scheme sets out in detail the proposed methods of financing it, which appear to combine an efficient monetary remuneration for the midwife and doctor, with no undue financial hardship to those women for whose welfare it has been formulated.

The British Medical Association emphasises the great importance of doctors being soundly trained in maternity work, and stresses the importance of post-graduate instruction, so that the doctor may always be the bedrock upon which the medical services of the country, including midwifery, may be built. The Association also insists that the training of midwives should be more thorough than heretofore, and emphasises the fact that the practical side of their work should receive more attention than formerly. Careful and

efficient supervision of the midwives by women of exceptional ability in midwifery is essential for the success of the scheme as formulated.

A careful perusal of the maternity statistics during the past generation makes one realise that there is much room for improvement in our maternity services throughout the country at large, and a detailed consideration of the British Medical Association Memorandum for a national maternity service, places in the hands of the profession at large, and the Ministry of Health in particular, a most useful foundation on which to build up a service to fill a very obvious gap in our medical services.

At the present time maternity practice differs very considerably in various parts of the country; it is essentially different in industrial areas and in rural districts. In industrial areas a great deal is solely in the hands of the midwife, and the mother never sees a doctor during pregnancy, labour or puerperium. This lack of medical supervision is a serious defect, and the adoption of a scheme similar to that described would remedy it. How much this defect is due to the disinclination of medical men to do midwifery with all its hard work, night calls and irregular hours, I am not in a position to state, but it is quite possible that this point may have some bearing on the matter. The adoption of a scheme such as that proposed by

the British Medical Association would ensure that in all cases the midwives would co-operate with the doctors practisingin the area.

In towns and cities much of the midwifery work is carried out in connection with maternity hospitals with their out-patient clinics. In such areas there is much more co-operation between the midwives and the hospital physician and surgeon, who in many cases engages solely in the practice of obstetrics and gynaecology.

There is in towns and cities much more inclination on the part of women to have their babies in hospital or maternity home, instead of in their own home. The "town-bred" woman appears to some extent to be contracting the "maternity hospital habit" to a greater extent as the years go by.

In rural areas, such as this, maternity work is carried out in a manner which fairly closely approximates to the British Medical Association scheme. It has been slowly but surely evolved throughout the years, and is at present a very good scheme for country districts. The "Family Doctor" is primarily responsible for all the maternity work.

In this district there are two resident nursing associations and several villages where there are visiting nursing associations. The associations are all affiliated with the County Nursing Association, and the County Medical Officer is the supervising authority. The associations are

supported financially by members' subscriptions, and to a large extent by special efforts in the areas concerned.

The nurses engaged are all properly trained women who hold the certificate of the Central Midwves' Board, and we find that the most successful nurses are those women who have been accustomed to, and like life in the country. These nurses do not take sole charge of maternity cases. Each case is primarily under the family doctor, who is responsible for the entire conduct of the case. The doctor is engaged by the patient, and he is responsible for ante-natal supervision, which he conducts either in the home of the patient or in his consulting room whichever is the more convenient. In rural districts, where long distances separate doctor and patient, ante-natal examinations are most commonly and most conveniently conducted in the patient's home. The doctor advises when labour is likely to supervene, and when, in the cases of a resident nurse being employed, she should come to the house. In the case of the visiting nurse, he advises the time when her services should be applied for. The nurse at some time prior to the confinement, visits the patient, and makes what preliminary arrangements are necessary in the house. When labour commences she is responsible for getting the doctor to his patient before the birth takes place. In

many cases of short, easy labour, she conducts the labour from beginning to end, but the doctor is sent for in every case, and he is the responsible person. This method ensures that every mother has skilled medical assistance and advice, and from the doctor's standpoint it is most important, for it keeps him constantly in touch with the phenomena of normal labour. This latter point, in my opinion, is of prime importance, for unless one is well versed in the phenomena of normal labour, how is one always to be able to recognise the abnormal when it crops up?

Under the British Medical Association scheme, doctors must be brought in when difficulty arises. This means that the practitioner will rarely witness normal physiological birth, and with human nature as it is, one would be bound to get "rusty." In rural districts the family doctor attends all cases, both normal and abnormal, and in that respect we country doctors have a great advantage over our confrères in industrial areas, where they are only called in when the midwife has failed. Were the doctor summoned to every labour case, it is certain that much less maternal mortality and morbidity would be the result. The more one sees of childbirth, the more one is struck by the way in which Nature works. She is indeed the perfect operatrix in obstetrics, and I am sure that if the profession at large,

were more familiar with the way in which she carries out her normal work at the time of childbirth, there would be many less "failed forceps" cases. These latter undoubtedly account for much maternal morbidity and not a little of the maternal mortality at the present time.

In rural areas there are, as already mentioned, two types of nursing associations:- (1) Resident. (2) Visiting.

The resident nurse lives in the home with the patient until such time as her services can be dispensed with, the average stay being about a fortnight. The nurse takes the mother's place in the home, and is responsible for the carrying out of certain of the household duties. She looks after the children and does the cooking. She is there on the spot, able to cope with any obstetric problem that may arise, and is able to get the doctor whenever she considers it necessary. It is a most important point that she is there before labour commences, and is beside the patient during the whole time of her confinement. In many cases it is not necessary for the cottage woman to obtain extra help, and as the nursing fees are reasonable, there is no undue drain upon the cottage's meagre finances at this important and anxious time. The resident nurse has only one case to attend to at a time. There is little likelihood therefore, of her carrying infection to her patient. With

the resident nurse in attendance, the country cottage can be converted temporarily into a very efficient labour ward, depending on the ingenuity and skill of the nurse engaged. By this means it is possible for the cottage woman to have many of the advantages at her confinement at moderate cost, which her more well-to-do sister can command at a much higher figure.

The visiting nurse, on the other hand, has her district to look after. She is scarcely ever sent for until labour has begun, in many cases only after it has been in progress some hours. She may be attending at the same time some septic general case or some surgical dressing case. There is, therefore, some opportunity of carrying infection no matter how careful her technique may be. The visiting nurse can devote only a small part of her day to the puerperal mother, and in most cases she visits her patient twice a day, for an hour or less during the first five or six days, and thereafter once a day until the woman gets out of bed. In such cases, unless there are kindly relatives, friends or neighbours, who can stay with the mother and attend to her many needs whilst in bed, she must do without such assistance unless she can afford to employ some temporary help. Where there is a small weekly wage, and it may be, a large family,

the family purse in most cases cannot afford the expense.

In my opinion the resident cottage nurse is in every way to be desired rather than the visiting nurse, and it ought to be the aim in the country to secure in some way the advantages of a resident nurse for every cottage mother. Why should the poor woman not have the same advantages as her more well-to-do sister?

In the county of Northumberland, there is a very definite attempt being made to substitute the resident nurse by the visiting nurse. The reason given by those in authority is that they cannot get nurses to agree to live in the cottage with the patient$. The modern cottage nurse is said to be drawn from that class of society which considers living under cottage conditions beneath its dignity. Many of the women who are being trained at present are dwellers in town and industrial areas, who have no experience of country life, and no desire to work in country districts. They consider that they belong to a higher grade of society.

In the past it has been possible to recruit our cottage nurses from cottage homes, and the nurses so obtained have done noble work. It should be the aim of our country nursing authorities to train women of this type specifically as resident cottage nurses. This can be done, as we in this

area have proved in recent years, where we have trained several women ourselves independently of the county authorities, in order to keep our local association up to satisfactory strength. The main trouble to my mind, is that those in authority do not understand cottage conditions, and are unable to find the suitable girl to train as a cottage nurse.

There is no doubt that the cottage mother is infinitely better cared for when she has a trained nurse beside her during the whole of her labour and lying-in period, than when she has a district nurse visiting her for an hour or so night and morning.

I consider the proposal to substitute resident nurses by district nurses as a definitely retrograde step. In our maternity work we should constantly strive for improvement in the service, and we will never attain perfection until it is possible for every parturient woman to have a trained maternity nurse beside her during the whole of her labour and lying-in period.

It is said that country cottage girls, who have only had an elementary school education, cannot attain the standard to enable them to obtain the certificates of the Central Midwives' Board and become maternity nurses. If the standard has been raised to such an extent in recent years, I think it would be

a definite step in the right direction if the authorities concerned would agree to waive or lower certain of their educational standards, when it was found that a girl who had a natural aptitude for the work, was willing to be trained. There are many girls from cottage homes in the country, who, although not so well educated as their town sisters, could with training become the type of resident cottage nurse who we find is a great blessing to the cottage mother.

If the foregoing were attainable and I consider that it is, then in rural districts we would have an ideal maternity service, viz., the family doctor looking after the mother during her pregnancy, parturition and puerperium and a trained resident maternity nurse in sole attendance at the confinement and during the lying-in period.

In the county of Northumberland there are satisfactory arrangements made by the County Council for the doctor in charge of a case obtaining the advice of a consultant when necessary, whether in the patient's home or at the consultant's residence, or at a maternity hospital in Newcastle-upon-Tyne. These facilities are available during the ante-natal, natal and post-natal periods. The "maternity hospital habit" has not yet gripped the country mother, as it appears to have done to some extent in more populous areas, where many women prefer to be confined in hospital. The natural and proper

place for a baby to be born is in the home, and in country districts the great majority of mothers desire it so. The psychological effect, on the mother and the whole family, of a birth in the home is great. In rural areas maternity hospitals are recognised to be of great value where there is some definite pathology present, which demands hospital treatment. Such cases can be detected by careful routine ante-natal examination by the doctor, and transported by motor ambulance to the appropriate hospital.

MIDWIFERY IN A RURAL PRACTICE.

Medical practice in rural areas in this country is still almost solely in the hands of the family doctor. In my introduction, I have stated what I consider are the necessary attributes of the successful family doctor.

Frequently one hears or reads in the lay and medical press, that the days of the family doctor are numbered, and that in another generation his place will be taken by the "specialist-team," when general practice as we know it to-day will be no more. This change over is stated by its advocates to mean greater efficiency in the treatment of disease, and I presume that those who advocate the change over would divorce the practice of midwifery from that of medicine in general. They would have midwifery experts, who would do nothing else, just as they would have separate practitioners to deal with diseases of various organs and systems of the human frame. The advocates of this system, in my opinion, do not fully realise that the sick or injured person, or the expectant or parturient woman, must be viewed from a wide standpoint. The child-bearing mother must be considered as a whole, and not in parts. Each system of the body must be reviewed, and the inter-relationships of the various systems considered. In order to obtain this, the woman should be under the charge of some one person, who

can do this efficiently, and this can only be obtained from the family doctor, whose daily work is the supervision of the individual as a whole. Were the parturient woman handed over at the appropriate time to the maternity specialist, who has no knowledge of her previous history and her peculiarities, there is a danger that some other factor in her economy would be overlooked, and she would suffer from "over-specialisation." There is a danger that the member of the specialist team, would not remember to a sufficient extent the personal factor in every patient, and that the latter was not just a "case."

Each individual has a different temperament and personality, and it takes a long time for any one person to get a thorough knowledge of this factor in each patient. The family doctor is in an unrivalled position to get this knowledge, and it is only when this is obtained, often after years of waiting, that we obtain the state of affairs, described as "the patient's faith in the doctor." It is generally recognised that this relationship between doctor and patient is the foundation upon which the successful practice of medicine is built. As long as we have the family doctor occupying his place in our social and family life, then will we have the successful practice of medicine in the ideal sense of the term.

It is perfectly possible for any one individual, who is keen on his work, to be able to keep abreast of modern medicine to a sufficient extent to carry out efficiently the duties of the family doctor.

It is not necessary that the family doctor be a "specialist in everything". He should have a wide knowledge of medicine in general, and be able to recognise at once his own limitations, so that he may know when to pass on his patient to a specialist for diagnosis or treatment, or both.

The successful practice of midwifery is a "sine qua non" of the successful family doctor. The child-bearing woman in the country naturally looks to the family doctor for advice as to her condition, and expects of him his help when the baby arrives and afterwards. The doctor has at all times a splendid opportunity of educating his patients in medical matters, and especially so with regard to pregnancy. Nowadays the medical profession realises the great importance of ante-natal supervision, and the family doctor has an excellent opportunity of impressing this on his patients. It is apparent, I think, that the general public to-day realise to some extent the importance of ante-natal work, and this is undoubtedly due to a great extent to the missionary work of the medical profession. By insisting on ante-natal supervision in every case, one finds that the child-bearing woman of to-day expects it as a routine, and so her pregnancy is notified earlier than in former days. This

ensures supervision of the expectant mother during most of her pregnancy, and gives her the best possible chance of arriving at full term in as healthy a condition as possible.

The family doctor has the very great advantage of knowing the previous medical and obstetric history of his patient. In the primipara especially, he is easily approached with regard to maternity matters, and it is unlikely that any inherent bashfulness on the part of the patient would induce her to procrastinate, as might possibly be the case if she were obliged to employ a comparative stranger.

The happy relationship existing between patient and family doctor could not be obtained were the "specialist team" to replace the family doctor; nor can it ever exist in the clinic. To my mind this is one of the great disadvantages of the clinic system.

In rural areas, clinics are not practicable for reasons mentioned in my introduction; the day of the "specialist team has not yet dawned; the family doctor, who is the family accoucheur, still holds his place in the social life of the community.

In rural areas ante-natal work is chiefly carried out by the doctor in the patient's house. In the first place it is important to ascertain by the usual methods the anticipated date of delivery, and to confirm this to some extent when quickening is felt. It is extraordinary how frequently a woman is unable to state definitely the date

of the first day of her last menstrual period. In these cases, especially, it is most useful to impress on the woman the importance of making a careful note of the date of quickening, if one is fortunate enough to be notified of pregnancy during the first four and a half months. The woman's general condition is thoroughly reviewed, and an early opportunity should be taken to remedy any faults found. The state of the teeth should be looked to, and any that are decayed, removed or repaired without delay. Directions are given for the general conduct of the woman during pregnancy, special emphasis being laid upon the amount of exercise to be undertaken, the diet, the state of the bowels, and the preparation of the breasts and nipples for suckling the baby. The urine should be examined at once. It is my practice to examine the urine completely once every four weeks until the end of the seventh month, once every two weeks during the next month, and weekly thereafter until the confinement takes place. I always impress on my patients the great importance of this examination, and the fact that <u>they</u> are responsible for sending me specimens at the proper times in clean labelled bottles.

Blood pressure estimations, I regard as very important, as any rise of the systolic blood pressure over 130 m.m. Hg. denotes a toxaemia, even though there is no evidence of albuminuria. Should this occur, it is clear evidence that

the patient should be under suitable treatment.

Patients are warned to report at once any swelling of the feet or legs, any red vaginal discharge, any severe abdominal pain, any excessive vomiting, or any intercurrent ailment such as a catarrhal cold, cough, sore throat, diarrhoea, etc., etc.

Morning sickness is a common occurrence during the first three months, and if excessive to the extent of causing definite impairment of health, I find that it responds well to a diet, low in fat, high in cereals and skimmed milk, with a liberal quantity of glucose. I have seen two cases of Hyperemesis Gravidarum prove fatal, and they will be described in detail in a later section.

A thorough clinical examination of the expectant mother at the thirty-sixth week of pregnancy is essential. At that time one can determine the lie of the baby, and should it be wrong, it can be corrected. At the same time one can determine whether the foetal head will engage in the pelvis or not. In primiparae the head should be engaged at this time. External pelvic measurements I have not found of great assistance, by far the most important factor being the relative size of the foetal head to the maternal pelvis, and this can in most instances be determined by careful abdominal palpation at the thirty-sixth week. At

this time it is not generally necessary to do a vaginal examination, unless one is in any doubt after carrying out the abdominal examination. Should there be marked discrepancy between the size of the foetal head and that of the maternal pelvis, it must be decided whether the pregnancy should be allowed to go to full term, and the woman delivered by Caesarian Section, or whether an immediate induction of premature labour should be performed. The above depends entirely on whether at the thirty-sixth week the foetal head will pass through the pelvis; if it will the latter procedure should be adopted.

The careful and complete ante-natal examination at the thirty-sixth week is of prime importance, and if it were universally carried out with every expectant mother, there should never occur the phenomenon of a woman coming into labour with the head impacted at the brim of the pelvis, with all its dangerous sequelae. The importance of the examination should be impressed on every expectant mother, and she should be encouraged to co-operate with the doctor in order to see that it is not overlooked.

Should Caesarian Section or induction of premature labour be indicated, it is not advisable to have either carried out in the patient's home. She should be transferred to a maternity hospital where she is under the charge of an

obstetric specialist. Caesarian Section falls into the category of a major surgical operation, and should be dealt with as such. The present methods of induction of premature labour are not suitable for the private house, and until some safe and sure method, which is absolutely free from the danger of sepsis,is devised, this procedure should only be carried out by the hospital obstetrician. I have in my practice a patient who on three occasions has had labour induced in this way and she is in excellent health with three healthy children. She is a very diminutive but healthy woman, with a justo-minor pelvis. She comes of a small stock, an aunt having died as the result of a "failed forceps" case, in which Caesarian Section was performed in time to get a living child. The occurrence of such a case is a clear indication of the prime importance of ante-natal examination.

Ante-natal work, as I have described it, is clearly the doctor's duty, for he possesses the necessary anatomical, physiological and pathological knowledge. The nurse or midwife during the ante-natal period should be employed to see that the doctor's advice is followed, and to advise the expectant mother about the necessary preparations required in the home for the arrival of the baby.

In rural areas there are arrangements made by the County Medical Officer of Health so that specialist opinions can be obtained in necessitous cases, and the doctor in charge can communicate with the specialist of his choice and obtain his services quickly.

There are several very useful mothercraft books available, which in the hands of intelligent women can be of real service. Of these books "The Mothercraft Manual" by Mabel Liddiard is the book which I prefer, and frequently recommend to patients. It is full of good advice and does not frighten the woman who is naturally somewhat apprehensive. Another excellent method of imparting knowledge to women is by means of classes. The Red Cross Society organises classes in various districts, not only in ambulance work and nursing, but in infant and child welfare. Their manual on the latter subject is an excellent small book which contains much information of value to the expectant and nursing mother.

The doctor, having advised the patient when she should have her nurse in residence, or in the case of a visiting nurse, the date on which the latter should be engaged, the preparations for the confinement as far as the doctor is concerned are complete.

The nurse takes up residence and she is responsible for the preparation of the cottage home for the baby's arrival.

In many cases the confinement takes place in the kitchen, in others where there is bedroom accomodation, it is conducted there. The bed should be suitably prepared with waterproof and accouchement sheets. Provision should be made for an adequate supply of boiled water by means of the various household pots, pans and kettles. A plentiful amount of fuel should be placed conveniently, so that during a long night, may be, the comfort of all concerned may be attended to, for as we all know the great majority of births take place during the hours of darkness.

It is advisable that the doctor should call to see his patient after the nurse has taken up residence. He can then discuss with the nurse any circumstances he has ascertained during his ante-natal supervision, and advise any precautions which it may be necessary to adopt in the particular case. It is my practice in all cases to advise the nurse to administer a hot soap and water enema as soon as labour commences. When this is done it ensures a "clean confinement" which is very much preferable to the confinement where one is constantly having to remove faecal matter after each pain. From the patient's point of view, it makes the birth much easier, as the baby's head must pass through the pelvis with much more ease when the rectum is empty than when it contains faeces. In those cases where there is no nurse

engaged, and where there is only some kindly neighbour helping in the home, or in those cases where the doctor is on the scene before the visiting nurse, it is essential for the doctor to see that the bed is properly arranged, and to administer himself early in labour, a soap and water enema. I generally find that a quart jug of hot water into which is stirred a piece of white soap impaled on the end of a dinner-fork, makes in a very short time an excellent enema solution. The enema should be given slowly, and if a labour pain supervenes, the bulb of the syringe should not be compressed until the pain has passed.

In rural practice the provision of sterilised maternity outifts would be a great advance on the practice as it is at present. In a few of the better class households, these outfits are available, but if such were available for every cottage confinement at a moderate cost, it would be most useful.

The doctor in the country, as elsewhere, must be prepared to respond to a maternity call at once, at any hour night or day. In order to do this he should have the telephone installed in his house, so that its bell can be heard at all hours. He should have reliable transport available, and his "maternity bag" should be ready for use at all times.

The "maternity bag" should be a large one provided with at least two washable and detachable linings, so that

it may always be kept clean.

It should contain as a minimum:-

1. A sterilizer large enough to contain the forceps; methylated spirit lamp; supply of methylated spirit.

2. An apron - washable and waterproof; a white operating gown.

3. 1 lb. absorbent wool; several ounces of absorbent gauze and white lint.

4. Antiseptics - several ounces of Lysol; Biniodide of Mercury tablets; 2% aqueous solution of Iodine; Dettol.

5. Sterilizable nail brush and soap.

6. Axis-traction forceps; artery forceps; scissors; vulsellum forceps; needle holder; surgical needles, large and small; hypodermic syringe and needles; Simpson's perforator; catheter; Higginson's syringe; cat-gut; silkworm gut; indiarubber gloves; ligatures for cord (thread).

7. Bottles, containing - chloroform; liquid extract of ergot; 20% argyrol; surgical spirit.

It is a safe precaution to carry a spare bottle of chloroform. This was once very forcibly impressed on me when my bottle of chloroform fell on a stone floor and was smashed during a confinement.

8. Ampoules containing 5 units of extract of posterior lobe of the pituitary body; hypodermic tablets of morphia, gr. $\frac{1}{4}$ and strychnine gr. 1/60.

9. An anaesthetic mask.

10. A sparklet CO_2.resuscitator.

11. An "obstetric helper", such as that supplied by the Surgical Manufacturing Company.

12. An electric head-lamp. This is a most useful article as it ensures a perfect light being constantly directed on the field of vision, even if the confinement is carried out in one of the old-fashioned box beds, where the only light available is that from a candle.

The doctor's maternity bag furnished as described will be found sufficient for all practical purposes, provided that the patient has been thoroughly supervised during the ante-natal period, and only allowed to come into labour with undoubted expectation of domiciliary delivery.

The only drawback of this list of contents of the maternity bag is that it makes the bag heavy, (28 lbs.), and if one has some considerable distance to walk, it is quite a good idea to obtain the help of the expectant father if at all possible!

It is my practice to inform the nurse to send for me when after having given a preliminary enema, the os has dilated to the size of a crown piece, provided the membranes have not ruptured before then. Should the membranes rupture early the doctor should be summoned at once.

As soon as the doctor arrives at the patient's house, he should ascertain when labour began, and the nature and frequency of the pains. He should survey the patient's general condition and then examine her by abdominal palpation in order to ascertain the lie of the baby, and especially to make sure that the bladder is empty. It is extraordinary how frequently one arrives at a confinement to hear that

things are progressing very slowly and that there is an anterior lip of the os which is retarding the forward progress of the head. When one examines the abdomen one finds that the bladder is distended with urine, sometimes to near the navel. Removal of the urine with a sterile catheter solves the problem in most cases. Having completed the abdominal examination, the doctor scrubs up his hands and forearms thoroughly, and after careful swabbing of the vulva and perineum, carries out a vaginal examination. It is an advantage to time this examination to commence just before a pain is due. Thereby one ascertains the condition of the vagina and os with the uterus at rest, and one may be able to feel the sutures and fontanelle, or other presenting part through the unruptured membranes when they are lax, and so diagnose the presentation at once. When the pain occurs, one is able to make out the degree of dilatation of the os, and the effect of the uterine contraction on the advancing presenting part. Care should be exercised at this time not to rupture the membranes, and special note should be made of the presence or otherwise of an anterior lip of the os, which may be nipped between the advancing head and the symphysis pubis.

If the dilatation appears to be slow, or if there is an anterior lip as described, or if the head or other presenting part appears to be a very tight fit into the pelvis, one can

get very material help by placing the woman in the Walcher position. By so doing the antero-posterior diameter of the pelvic brim is enlarged during a pain, and the presenting part is enabled to come more easily down into the pelvic cavity, and any anterior lip may slip back, or can be pushed back during a pain by the accoucheur. This manoeuvre, I have found of very great value indeed, especially in primparae, and consider that it would be most useful if carried out as a routine in every case. I have repeatedly found that half or an hour or an hour in the Walcher position, was the means of bringing the foetal head on to the perineum in a case, which, otherwise would have been given a sedative and sent to sleep for several hours in order to rest the uterus.

Having made the preliminary vaginal examination, no further vaginal examination should be conducted until the membranes rupture, and then the presentation should be definitely confirmed before any caput succedaneum has time to form. At this time also it should be ascertained whether there is any prolapse of the cord, and if so the cord should be pushed up into the uterus.

During labour, the doctor should frequently palpate the fundus uteri, in order to observe the muscular effort of the uterus and the superadded voluntary abdominal muscular effort

of the mother at each pain. He should adopt a cheerful attitude and encourage the mother to bear down as hard as possible with each pain. I generally conduct labour with the patient lying on her left side, with the knees well flexed on the abdomen, and a pillow between them. A towel or some similar article is fixed to the bed head, so that the mother may tug at it during a pain. It is most useful too, to have a "kidney dish" if available, or if not, an ordinary soup plate, placed on the bed in contact with the lower buttock, so that any discharge of blood, mucus, or liquor amnii, may be immediately scooped up, and transferred to a slop pail conveniently placed at the bedside. This helps to keep the bed clean and dry, and adds much to the physical comfort of the woman who would otherwise be lying on a sodden and wet surface.

When one is satisfied that the presenting part is progressing normally, one must wait until the anus begins to stretch, and the perineum to bulge. When this latter takes place, the patient is beginning to suffer severe physical pain, and at this stage it is my custom to give all my patients an anaesthetic. One should enquire at once whether the patient has false teeth, and if so, have them removed to a place of safety. The anaesthetic I use is chloroform, and it is given on an anaesthetic mask placed over the patient's

mouth and nose during each pain. The chloroform is sprinkled on the mask by the doctor, who by experience knows how much is necessary. I have no experience of chloroform capsules, which have recently been used by some authorities. This method appears to ensure that overdosage is not possible. I have never seen any ill-effects of chloroform to either mother or baby in maternity work.

Chloroform anaesthesia in a private house, especially in a country cottage with the open fire and oil-lamp or candle, is very much safer than ether with its inflammability. No doubt nitrous oxide and oxygen or air would be safer, but in a rural practice one requires an anaesthetic which is easily portable and which is certain in its effect. Chloroform fulfils both of these requirements, and is, as far as I have observed in maternity work, safe.

When the perineum is well stretched, and the presenting part is being born, it is advisable to support the perineum with a sterile towel, in order to minimise any tear which may occur. I do not advocate episiotomy, as one so often finds that the perineum which appears as if it would be badly torn, sustains surprisingly little damage if left alone and properly supported.

As soon as the baby is born, the nurse is instructed to bathe the eyes with sterile boracic lotion, to swab out the

mouth with a piece of sterile soft linen or cotton (not wool or gauze in case any piece is inhaled), and when the cord has stopped pulsating to tie off the baby with two ligatures, and sever the cord between them.

Meantime, the doctor's left hand controls the fundus uteri, which should never be abandoned until the placenta and membranes are delivered. It is advisable to leave this to Nature. Expression of the afterbirth by Crede's method should never be done unless it is still in the body of the uterus at the end of an hour after the baby's birth. If this is rigidly adhered to, the risk of post-partum haemorrhage is lessened. One can generally feel when the placenta separates and slips into the lower uterine segment. When this occurs gentle pressure will aid in the expulsion of the placenta per vulvam. When the placenta slips out of the vulva, it is a good plan to allow it to fall on to the soup plate receiver by its own weight, and in most cases the membranes are gently dragged out behind it. If they do not arrive quickly, by twisting after the manner of a rope, they come away complete in most cases.

Should perineal repair be necessary, this should be commenced immediately the baby is separated. The nurse should control the fundus uteri, and the doctor, whilst the patient is still analgesic, should pass the necessary sutures through. These are tied after the birth of the

placenta and membranes and the edges of the tear seen to be in good position. If the tear is extensive, involving the posterior wall of the vagina, this part should be sutured with catgut. Perineal sutures should be of silkworm gut, and it is advisable that this be coloured, e.g., either blue or black. The advantage of this is that they are easily seen. On more than one occasion, I have removed, during a confinement, a suture from the perineum which had been inserted at a previous confinement. If the nurse arrives after the confinement is over and sutures have been inserted, it is always advisable to tell her how many there are. Every perineal tear, no matter how small, should be repaired at once, and it is extraordinary how few cases thus repaired go septic, if carefully swabbed during the lying-in-period. The vast majority heal by first intention. Perineal sutures should be left in position ~~one week.~~ 10 days?

From beginning to end of labour the attitude of the doctor should be one of "masterful inactivity." He should leave labour to Nature as much as possible, and be able to intervene and help when any indication presents itself. It is inadvisable to hurry on labour if things are going naturally. The vast majority of women who arrive at the time of labour to one's ante-natal satisfaction, will come through the ordeal of labour and deliver themselves naturally

and without artificial aids.

Pituitary extract is a useful part of the accoucheur's armamentarium. It must be used with caution, and only where there are clear indications of no mechanical obstruction to the passage of the baby through the pelvis. Before delivery it should never be given in doses larger than five units. It is usually given into the subcutaneous tissue over the gluteal region. I find that it is rarely necessary to administer it in primiparae. The ideal case for the use of pituitary extract is at a twin birth, after the first baby is born; if pituitary is given, the uterus quickly contracts and the second child is quickly delivered. In my experience the type of woman who requires the help of pituitary extract most often, is the thin multiparous woman with weak abdominal muscles and a lax birth canal and perineum. In this type the uterine contractions are often poor, and the administration of pituitary extract stimulates the uterus to expel the foetus, and thereafter it contracts and retracts efficiently and minimises the risk of excessive uterine loss. Prior to the use of pituitary extract this type of woman often required a forceps delivery, with the risk of trauma and a heavy uterine loss. Pituitary extract should never be used unless the presenting part is well down into the pelvic cavity, and it is evident that the baby can be born naturally. After the use of pituitary extract, I have not

noticed any tendency to the retention of the placenta and membranes.

After labour is over, pituitary extract is extremely valuable if the uterus does not contract and retract satisfactorily and there is excessive bleeding. At this time it can be given in doses up to fifteen units if necessary.

The Use of Forceps. The obstetric forceps which I use are Neville's axis-traction forceps. They are simple in construction, mechanism and application. Before use they should always be sterilised by boiling in the portable steriliser, in which at the same time is boiled up a catheter and some lubricant, if this is not carried separately in a sterile container.

Forceps should always be used after the bladder is emptied by catheterisation, the rectum empty and the patient under full surgical anaesthesia.

If ante-natal supervision has been thorough, the necessity of conducting high forceps delivery with the head at the brim of the pelvis should never arise. Any case of this nature should be detected before labour commences, and either have labour induced before term, or have Caesarian section performed at term as already described. The only type of case which should be allowed to proceed naturally in labour at term with the head impacted at the brim of the pelvis, is in my opinion, that of a large hydrocephalus. Labour should be allowed to

proceed until the os has dilated to the size of a crown-piece, the membranes ruptured normally and the head perforated with Simpson's perforator. A large quantity of fluid is at once evacuated, the cranial bones collapse, and very soon the foetus is born. The use of forceps should at all times be as a last resort. They should never be used solely to hurry on the birth, either at the request of the woman and her friends, or because the doctor is in a hurry to get home. They should only be used when the well-being of the mother, and to a lesser degree that of the child, demands it. If, after the strain of a prolonged labour, the os is fully dilated, the head is well down in the pelvis, and all other methods having been adopted to obtain a successful issue, the child is still arrested at the outlet of the pelvis, then is one justified in delivering with forceps. In such a case, it is generally found that the arresting of the birth is due to undue rigidity of the maternal parts at the outlet and in the perineum.

Just as I have come to associate the use of pituitary extract with the thin multipara, I have come to associate the use of forceps with the short, stout, phlegmatic-looking, primiparo woman, who one can imagine may later on be the subject of gall-stones or umbilical hernia.

The combination of the use of pituitary extract with

that of forceps may be very effective. Whenever I am obliged to use pituitary extract in a primipara, I always have the forceps ready for use in case of necessity.

When using forceps, the patient should either be placed on her back in the lithotomy position or on her left side in the exaggerated flexed position. In order to retain the patient in either of these positions, the "obstetric helper" already mentioned is of inestimable value. By using it, both the nurse's and doctor's hands are left free for other duties.

The more experience onehas of midwifery practice, the more anxious does one become to dispense with the use of forceps. Their chief disadvantage is their tendency towards trauma of the maternal parts. One is tempted to envisage the day when, with competent ante-natal supervision, and a perfectly "fool proof" method of induction of premature labour, the maternity forceps may be relegated to the museum shelf.

Asepsis and Antisepsis. In all his maternity work, the doctor should have as his ideal,asepsis. This, as we all know, is not attainable even in hospital with all its up-to-date equipment and technique. Much less so is it attainable in the house, especially the old-fashioned country cottage, with its limited facilities for obtaining boiling water, and its primitive sanitary conveniences. If, however, the

doctor puts into practice those principles which he has learned during his years of training, it is extraordinary how efficient his asepsis may become. If he aims at the ideal of asepsis at all times, in all branches of his work, maternity and otherwise, his technique becomes to some extent instinctive, and he is rewarded with satisfactory results in his work. No matter how reliable he may regard his aseptic technique, he is obliged to seek the assistance of antiseptics, and to adopt in addition the antiseptic regime in his work.

Much research work has been done in recent years in the efficacy of various antiseptics which have been in use. For many years the antiseptic in common use has been Lysol, but modern research indicates that it is not a satisfactory antiseptic when used in the concentration usually adopted, and when used in stronger concentrations, it is much too irritating to the skin both of the patient and of the doctor or nurse. Perchloride of Mercury (1 - 1000) is more efficient than Lysol, but it does not mix with soap and corrodes metal instruments. Biniodide of Mercury (1 - 1000) has not the latter disabilities, whilst possessing reliable antiseptic qualities.

In the final report of the Departmental Committee on Maternal Morbidity and Mortality, there is a full description

of various experiments conducted in order to ascertain the efficacy of various antiseptics in common use. This committee recommends as an efficient antiseptic for general use in midwifery a 2% aqueous solution of Iodine in Potassium Iodide. This solution has one drawback, and that is the irritant effect that Iodine possesses on the skin of some individuals. Fortunately the number of people who have this idiosyncrasy to Iodine is small. This 2% solution of Iodine, should be used for the sterilisation of the vulva and perineum after careful scrubbing with soap and water when the hair has been removed. A teaspoonful of this solution in a pint of hot water forms an effective solution in which to scrub up the doctor's hands. It is miscible with soap, and it is advisable to use an antiseptic coal-tar soap. Similarly an Iodine lubricant is recommended for the doctor's hands or instruments, viz: 1% Iodine and Potassium Iodide in 75% aqueous solution of Glycerine.

More recently (British Medical Journal, October 21st, 1933) Dettol has been highly recommended by Colebrooke for both purposes, as its antiseptic properties are high and it has no irritant action on the skin.

It is certain that the old slavish reliance on Lysol as an antiseptic should be abolsihed, and that all accoucheurs and maternity nurses should use Biniodide of Mercury, and 2% Iodine solution or Dettol as their antiseptic stand-byes.

Personally, I do not favour the use of rubber gloves except for self-protection in an obviously septic case. If the skin of the hands and forearms is sound, the nails kept short, and the hands carefully scrubbed with soap in an antiseptic solution as described, I have not had any reason to suspect accidental contamination of the mother.

As already mentioned, the delivery of the placenta and membranes should be carefully attended to, and if at the end of an hour they are not forthcoming, Crede's method of expression should be employed. Should they still be resistant and remain undelivered after the lapse of another hour, and if there is considerable haemorrhage causing physical distress to the mother, it is necessary to remove them manually. This manoeuvre fortunately is not of frequent necessity, and when performed should only be so with very strict antiseptic precautions.

The placenta and membranes, having been delivered, it is customary to give the mother a drachm of liquid extract of Ergot in order to encourage the contraction and retraction of the uterus. The doctor should remain with his patient for an hour, during which time he keeps a sharp look-out on the condition of the uterus and pulse, and he should never set out on his homeward journey till he is satisfied that the uterus is well contracted, and the pulse regular

in time and force. During this hour, the nurse should be washing and clothing the baby. She should, under the doctor's supervision, apply a second ligature to the umbilical cord, and dress it with some antiseptic dusting powder and pad of gauze or linen. A useful routine practice is to apply a few drops of 20% Argyrol to the baby's eyes in order to minimise the risk of ophthalmia occurring. Before leaving the patient's house, the doctor should have a last look at the condition of the mother's uterus, her pulse, and the baby's abdomen to see that there is no haemorrhage from the cord.

In rural practice the great majority of mothers desire to nurse their babies. They recognise that as far as finance is concerned, it is the cheapest way to feed a baby, and in the working class home it is rarely necessary to persuade the mother that breast feeding is the ideal method for mother and baby. In the better class household where the mother wishes to indulge in various social recreations, it is sometimes difficult to persuade her to nurse her baby, but if one appeals to the inherent maternal instinct, it is surprising how often one is successful in what appeared at first an impossible mission.

I always advise the baby to be nursed at the breast within four hours of birth, and thereafter to aim at feeding every four hours, viz: 6 a.m., 10 a.m., 2 p.m., 6 p.m., 10 p.m., with no feed at 2 a.m. This may not be attainable at first, but after a short preliminary stage of three-hourly feeding, it is generally possible very soon to obtain the four-hourly interval described. This regularity of feeding is most important, as it ensures that the baby gets food in suitable amounts at regular intervals, and it obtains for the mother an adequate amount of rest between feeds. When one hears stories of our mothers and grandmothers, who fed their babies every two hours, night and day, one feels that motherhood in those days, must have been a needlessly strenuous and sleepless occupation.

The young mother is advised to pass urine within twelve hours of her confinement. If she is unsuccessful, the nurse is instructed to empty the bladder with the catheter. On the morning of the second day, the mother receives a purgative, an ounce of castor oil or two teaspoonfuls of liquorice powder. On the third day I always recommend that the head of the bed be raised about eight inches in order to facilitate free drainage of the uterus and obviate retention of the lochia. A simple method of doing this is to place two building bricks, superimposed on each other under each upper bed-post.

The majority of women are able to leave their beds on the tenth day after the confinement, and should never be allowed off their beds before then. I always refuse to accept any responsibility for what may happen to a woman if she gets up before the tenth day. Very soon the mother can dispense with the nurse's services, as a rule about the fourteenth day, and resume her normal place in the life of the home.

During the lying-in period, the puerperal woman should be visited by the doctor daily for the first three days, and thereafter on alternate days for the remainder of the period in bed in a case which pursues a normal course. Should any abnormality of mother or child occur, more frequent visitation will be necessary.

The public health authorities do not collaborate with the family doctor in his ante-natal, natal, post-natal or infant welfare work except in so far as they have arrangements made for any deserving patient seeing a specialist, if the doctor thinks it necessary, as has already been mentioned.

There is a system of Health Visitors in this county, who are directly under the supervision of the County Medical Officer of Health. They receive from him the names of women who have recently been confined, and periodically visit them, weighing the children and giving advice to the

mothers. If a baby is being artificially fed they are able to supply reliable dried milk at a moderate price.

These Health Visitors are women who have been specially trained for the work. They do not work in collaboration with the family doctor and are rarely seen by him. It would be an immense advantage to all concerned if the Health Visitor were obliged to collaborate with the family doctor in every case, and there is no doubt that this could be arranged by those who are in authority. As it is, the Health Visitor only comes in touch with the Public Health officials who are out of touch with family medical practice. The Health Visitor is responsible for supervising the health of the child from infancy till school age, and as the family doctor is the person who should undertake any treatment necessary, it would be of great advantage to have a complete understanding between them, and thereby ensure as far as is practicable the future well-being of the young child.

Vaccination. It is my custom at all times to advocate vaccination against small-pox. There is a very small minority of parents who object to vaccination, and the result is that the rural population is "well vaccinated." I have always found that if an infant is vaccinated when six to twelve weeks old, that the result is satisfactory. In a working class household it is unwise to vaccinate during the

first six weeks, both on account of the physical condition of the mother and the smallness of the child. Most mothers are anxious to get the vaccination over before teething commences, as at that time the child is generally restless and vaccination may aggravate this restlessness.

SERIES OF MATERNITY CASES. 1927 - 1934.

YEAR.	TOTAL CASES.	PRESENTATIONS.			TWIN PREGNANCIES.	SEX.		NUMBERS OF				INDIVIDUAL LABOURS.				PITUITARY EXT. USED.	PERINEAL SUTURES INSERTED.	"B.B.A."	STILL BIRTHS.	FORCEPS USED.	DEATHS UNDER 1 YEAR.
		Vertex.	Breech.	Shoulder.		M.	F.	1.	2.	3.	4.	5.	6.	7.	8.						
1927.	63.	62.	1.	-	-	34	29	22	20	12	4	2	2	1	-	10	22	17	2	7	4
1928.	63.	62.	2.	-	1.	38	26	23	9	14	10	5	2	-	-	8	29	23	5	5	2
1929.	69.	69.	-	-	-	37	32	25	10	13	11	4	3	2	1	8	27	26	5	2	3
1930.	68.	68.	-	-	-	36	32	21	18	12	7	5	1	2	2	17	29	28	2	4	3
1931.	55.	54.	1.	-	-	26	29	21	12	10	9	2	0	1	0	16	25	19	4	2	3
1932.	57.	56.	2.	1.	2.	33	26	28	10	4	5	3	4	2	1	25	24	17	2	4	4
1933.	50.	51.	1.	-	2.	22	30	13	17	8	2	5	3	2	0	10	21	10	3	1	3
1934.	63.	64.	-	-	1.	34	30	18	22	10	4	4	2	1	2	18	26	16	1	3	1
TOTALS.	488.	486.	7.	1.	6.	260	234	171	118	83	52	30	17	11	6	112	203	156	24	28	23

Maternal Mortality. 1 case - Pulmonary Embolism .2% or 2.15 per 1000 children born alive.

Maternal Morbidity. 19 cases. Albuminuria 8. Puerperal Sepsis 5. Accidental Haemorrhage 2. Placenta Praevia 2. Puerperal Insanity 1.) Phlegmasia Alba Dolens 1.) 4% or 40.6 per 1000 children born alive.

SERIES OF CASES.

During the eight year period 1927 - 1934 inclusive, 488 maternity cases were attended in the practice, the yearly average being thus just over 60. During the period under review there was a decrease in the total number of cases attended per year, this being especially noticed in 1933, when 50 cases were attended; 1934, however, has shown an increase to 63. The most prolific year was 1929 when 69 cases were attended. The cases under review have occurred in four adjoining rural districts, the central one being Belford Rural District, which may be taken as a fair sample of the population composing the practice. When we examine the vital statistics of the Belford Rural District we find that in 1927 there were 68 births with a birth rate of 14.3 per 1000 in a population of 4755; and in 1933 there were 56 births with a birth rate of 12.6 per 1000 in a population of 4438. The corresponding figures for England and Wales for these years were - 1927, birth rate 16.7 per 1000, and 1933, 14.4 per 1000.

We find therefore that in this rural district there has been a fall in the birth rate, corresponding to the fall seen in the country at large, and that, in addition, there has been a marked decrease in the rural population. In this series of cases described approximately 50% occurred in the Belford

Rural District.

In the total of 488 cases attended, 6 were twin pregnancies, so that 494 children were born, 260, (53%), were boys, and 234 (47%), were girls. The number of boys exceeded the number of girls in 1927, 1928, 1929, 1932 and 1934, whereas in 1931 and 1933, the girls were the more numerous.

Presentations. 486 (98.4%), of the 494 children born presented by the vertex. 8 cases were other than vertex presentations, 7 being breech presentations, and 1 a shoulder presentation.

Fertility Statistics of the Individual Mothers.

In this series of 488 cases, it is interesting and instructive to analyse the individual labours. We find that there were:-

(1)	171	1st. labours,	- 35.2%.
(2)	118	2nd. " "	- 23.8%.
(3)	83	3rd. " "	- 17.1%.
(4)	52	4th. " "	- 10.7%.
(5)	30	5th. " "	- 6.1%.
(6)	17	6th. " "	- 3.5%.
(7)	11	7th. " "	- 2.4%.
(8)	6	8th. " "	- 1.2%.

From these figures we see that the greatest number of women to bear children were primiparae, and that the numbers decrease in arithmetical progression as the numbers of the labour increase. It is noticed that 59% of the children born were 1st and 2nd children, and that 86.8% were 1st, 2nd,

3rd and 4th children. This clearly indicates that in this rural area, the tendency is for parents to have a family of not more than four. The large family of a generation and more ago is very much the exception, as is seen from the fact that only 7.1% of the children born were the result of 6th, 7th or 8th labours.

In my opinion these figures have a very important bearing on the question of birth control, which is a much debated one at the present time, both within and without the medical profession.

It is extraordinary how seldom one is consulted voluntarily by parents on this matter. I have not kept a record of the actual number of times I have been so consulted, but from memory I am quite certain that during these eight years under review, it has not been more than three times.

Modern economic conditions in rural areas do not encourage the large family, and parents apparently realise that to enable their children to derive the greatest good, it is imperative to limit the number.

As far as I can gather, there is little recourse had to artificial methods of contraception, at least amongst the working-class people. In order to limit the number of the family, parents practice abstention from intercourse. One observes that some authorities who advocate the use of

contraceptive appliances, condemn this practice, as being one calculated to upset the nervous system and cause much functional neurosis. From my observations as a general practitioner in this rural area, I do not consider that there is much truth in this assertion. We do not see any excessive evidence of psychotic or neurotic asthenia amongst the ranks of the married people, and I am very loath to believe that this aspect of sex psychology occupies the prominent position that some authorities would have us believe.

I believe that human beings were created with a certain amount of will power, which must be cultivated and used for their own and their offsprings' well-being, and that in the limitation of the family, there is one of the most important spheres in which to utilise this gift of Providence. I always emphasise this point when I am consulted on the question of birth control, and so far have had no reason to regret doing so.

In any community one will always find a few weak-willed individuals, who have little or no control over the emotions. I do not agree that these people should be provided with contraceptive appliances. Were this done, they would simply take advantage of the opportunities offered to allow their sex-relationships to get out of control, and no real benefit would ultimately accrue to them. With regard to this class

of person whom I have described as weak-willed, it is very difficult to know what is the best solution. Voluntary sterilisation has been advocated by many, but in my opinion it has the same disadvantage as that already mentioned regarding the use of contraceptives. It would encourage promiscuous intercourse. If it has any advantage at all in this class of case, that advantage lies in the fact that it entails some sacrifice on the part of the parent in submitting to a surgical operation, which in the female is of the major variety, and involves personal risk.

The only real way to encourage the practice of moderate sex relationship amongst individuals is, in my opinion, an educational one. It should be the bounden duty of parents to so educate their children that the control over the emotions be of supreme value, and when they come to adult life they will realise the importance of that part of their earlier training, with regard to sex matters.

There is also the questions of the individual of low mental calibre, who becomes in adult life a moral imbecile. One comes across this type occasionally. The type occurs in both sexes, but of course is more prominently brought to the public notice in the female. The type is seen most frequently in the woman who has had several illegitimate

children, and who, although she is not of such low mental calibre as to warrant certification and confinement in a mental institution, is definitely below normal mental standard. This type of woman is definitely a public nuisance, and it would be a great advantage if some law could be formulated whereby she could be compulsorily sterilised, or incarcerated in some colony where she could not meet the opposite sex.

The Use of Pituitary Extract in the conduct of Labour.

Pituitary extract was used in 112 (23%) of the 488 cases, in order to increase the strength of the uterine contractions. On all occasions it was given in 5 unit doses sub-cutaneously, and in all but a few cases was given once only to a patient. I have never seen any harm result from its use and on most occasions it had the effect of shortening a tedious labour. It was only given when the os was fully dilated, and when it had been ascertained that there was no obstruction to the presenting part. On very few occasions was it found necessary to use pituitary extract in primiparae, its chief usefulness being found in the case of the thin multipara with weak abdominal muscles and a lax perineum.

Repair of the Perineum and adjacent Maternal Parts.

This was carried out in all cases where the perineal, or labial tissues, were torn, however small the tear. It

was found necessary in 203 (41.5%) of the 488 cases in the series. It is most important to carry out repair of damaged tissues at once, and it is always a marvel to me how well the parts heal if they are sutured immediately the child is born. Absorbable catgut was used for the posterior vaginal wall and the inner surfaces of the labia, and silkworm gut for the outer surfaces of the labia and the perineum. Sutures of the latter material are removed at the end of a week. I have already mentioned the advantage to be gained by using coloured - black or blue - silkworm gut.

Infants born before the Arrival of the Doctor. "B.B.A."

In 156 (32%) of the 488 cases, the baby was born before the doctor arrived at the bedside. This appears at first sight to be a very large proportion, but in a rural area like this where distances to be travelled are sometimes great, the proportion is not really so alarming. It must not be concluded that these 156 women were all left to Nature and the kindly attendance of neighbours at the time of parturition. In this area we have very efficient nursing services as has already been described, and in the very great majority of cases, the mother had either the help of a resident or a visiting district nurse, whose duty it was to send for the doctor when she considered that the birth was imminent.

In this series of 488 cases:-

(1) 318 or 65% had the services of a resident nurse.

(2) 131 " 27% " " " " " " visiting district nurse.

(3) 13 " 2.5% were sent to a nursing home or maternity hospital.
(4 being cases for induction of premature labour for disproportion.
(4 being morbid cases sent in for appropriate treatment.
(5 cases went in at their own request.

(4) 26 or 5.5% had no nurse.

From these figures we see that 462 or 94.5% were under trained supervision at the time of labour, and 26 or 5.5% had no nurse, and were in the possible position of being unattended by a trained person at the time of parturition. It is quite apparent therefore that a very small minority of the mothers in this series were unaided by either nurse or doctor at the time of childbirth.

This indicates I think quite clearly that in a rural area, domiciliary midwifery can be carried out efficiently and with trained help in almost every case, as in those cases where no nurse was employed, it was generally due to the fact that the expectant mother had been persuaded by some elderly woman friend or neighbour, that her services would be all that were necessary. Fortunately this practice of employing the local handy woman or "howdy" is now almost extinct.

Legitimacy.

Legitimate, 458 cases or 94%.

Illegitimate, 30 cases or 6%.

Illegitimate births in 1930 in England and Wales, 4.57%.

The Use of Forceps.

In this series of 488 cases, forceps were used on 28, (5.8%) occasions.

24	1st. labours.
2	2nd. labours.
1.	3rd. labour.
1	4th. labour.

In one case the birth resulted in a dead child. The presentation was a normal L.O.A. vertex, but the membranes ruptured early and the child was a very large one - 10½ lbs. The mother subsequently developed a septic double phlegmasia alba dolens, and after a long illness, she completely recovered. The remainder,27 cases, all resulted in healthy living children, and as far as can be traced none of these children have exhibited any evidence of injury from the use of the forceps at the time of birth. In almost every case of forceps delivery the maternal parts were damaged and required repair. With the exception of the case described above, all the other mothers delivered with forceps made uninterrupted recoveries, showing no pyrexia.

Maternal Mortality and Morbidity.

During the eight year period under review, 488 maternity cases, 26 abortions and one ruptured extra-uterine gestation were attended in the practice. Of the 488 mothers attended, one diedand the cause of death was Pulmonary Embolism. There were 494 children born of the 488 confinements, but 24 of these were still-born, so that 470 children were born alive in this series. We therefore find that the Maternal Mortality Rate in the series is 2.15 per 1000 children born alive. The average Maternal Mortality Rate for England and Wales during the seven year period 1927 - 1933 was 4.29 per 1000, (the rate for 1934 is not yet available), and that for Northern Rural Areas in 1930 was 4.75. (Table LX of the Registrar-General's Statistics Review for 1930).

Twenty-six cases of abortion were attended during the period and there were no deaths. Four of these cases were curetted in order to clear out retained products of conception, the remaining twenty-two cases cleared up naturally, the whole of the uterine contents having been evacuated without instrument intervention.

With three exceptions the cases of abortion occurred at the second, third or fourth months of pregnancy, the exceptions occurring at the sixth month. As far as could

be ascertained there was no evidence of criminal abortion. The women concerned were all married women. In many of the cases no cause other than excessive exertion and exercise, e.g. a "washing day" could be found for the occurrence. None of the cases of abortion exhibited pyrexial complications.

The solitary case of extra-uterine gestation occurred in a married woman who had already borne a child. She was successfully operated on in Newcastle Infirmary about fifty miles away. In this connection it is interesting to note that in one of the cases in this series, in which a woman had a perfectly normal pregnancy, labour and puerperium - she had previously been successfully operated on for a ruptured extra-uterine gestation about two years before her labour. This extra-uterine gestation occurred on the right side before she was married. The right Fallopian Tube was removed, so that in her successful pregnancy, the ovum had entered the uterus definitely by the left Fallopian Tube. Her child was a girl.

Maternal Morbidity.

By this term I wish it to be understood, that the cases included in this section are those in which the mother is definitely ill, and not able to be up and about her work at the end of 10 - 14 days from the time of her labour.

In this series of cases, there are several interesting abnormal cases, which cannot be included in this section, because in spite of the abnormality, the mother was fit and well at the end of 10 - 14 days.

In two cases women who suffered from chronic illnesses became pregnant, went to full term, and gave birth to children.

Case I. Mrs C. (34), who suffered from chronic rheumatoid arthritis and was a bed-ridden cripple, gave birth quite easily to a boy in September 1928. It was her fourth labour. There was no change in her arthritic condition, either during pregnancy or afterwards. She is still alive, but is bed-ridden and unable to help herself in any way. The boy is alive and well.

Case II. Mrs P. (36), This woman suffered from advanced disseminated sclerosis. She was pregnant for the fifth time and carried her child to full term. Her urine and blood pressure remained normal. She came into labour with the foetus presenting by the shoulder, and when I arrived at the bedside, a foetal hand was prolapsed into the vagina. It was necessary to perform internal version and deliver the child by the breech. This was done after a good deal of difficulty owing to the spasticity of the mother's muscles. As I was single-handed, there being no nurse present, it was not possible to use an anaesthetic. The child was stillborn. The mother made a good recovery from her labour. The effects

aggravate her disseminated sclerosis. This, however, may have been coincidental, as one knows how often a case of disseminated sclerosis exhibits remissions in the course of the disease for no apparent reason.

This woman went to reside in the area of a colleague, who has, since the labour described, attended her in a subsequent confinement. It is interesting to relate that on this occasion she gave birth to a still-born anencephalic foetus.

When one comes across cases such as these two just described, where women suffering from diseases which are incurable, become pregnant and bear children, one is bound to feel that these disease-stricken women should never be allowed to become pregnant. Although they are physically able to bear children, they are physically incapable of tending their offspring after birth. It seems to me wrong that such women should have the additional burden of motherhood to that of the incurable disease which they must carry all their days. In such cases I think the question of voluntary sterilisation should be clearly stated to them, and if their physical condition permits of the necessary operation, it should be carried out. Failing this, there can only be the practice of coital abstention or the use of contraceptives, with its disadvantages which I have already referred to.

Maternal Morbidity Proper.

In this series of 488 cases there were 19 morbid cases, i.e. 4%.

Albuminuria.

In this series of 488 cases there were 8, (1.6%), who suffered from this toxaemic condition and were definitely ill. In some of the cases, the albuminuric condition was discovered during the routine examination of the urine already described, and it was possible to undertake timely treatment. In the eighth instance:-

Case III. Mrs F. (27), 1st para, the woman developed eclampsia, and it is interesting to note that this case could probably have been prevented. The woman was a primipara, and had received the usual instructions about submitting regular specimens of urine for examination. For a time these were received regularly, and everything was found in order, then the specimens were not sent in, probably due to the fact that the husband had a cycle run of six miles on each occasion. He was also a football player, and one day when he returned home from playing in a game, he discovered his wife lying on the hearthrug in a fit. She was at once put to bed, and had numerous severe fits necessitating the administration of chloroform to control them. Subsequently half a grain of morphia was given hypodermically and the fits were controlled.

Within twenty-four hours labour commenced and she gave birth to a living child. The mother made a slow but a complete recovery, and it is interesting to note that she had a second child five years later, there being no albuminuria and no rise of blood pressure on this occasion. Needless to say during this second pregnancy there was no slackness on the part of either wife or husband in the regular supply of urine specimens. Between her confinements, the woman was in good health and, excepting for attendance on these occasions, she has not required any medical aid.

The remaining seven cases of albuminuria were detected during the routine examination of the urine.

Case IV. Mrs H. (22), 2 - para. This woman, who had had a difficult forceps delivery at her first labour, subsequently became very stout and suffered from some degree of hypothyroidism. Her urine was examined regularly from October 1929 till April 1930, when suddenly it was found to have a heavy albumin reaction. Her blood pressure was found to be 180 mm. Hg. systolic. It was considered, as the foetal heart sounds were good and her confinement expected about June 7th, that on the 26th April, when her severe toxaemia was discovered, she should have labour induced. She was accordingly sent on that date to a maternity hospital in Newcastle. Shortly after admission, she had a very severe

accidental haemorrhage, and the baby was still-born. The mother made a slow but good recovery, and was soon able to resume her normal mode of living. The albuminuria has persisted along with a raised blood pressure, and there is no doubt that she suffers from chronic nephritis. She was advised not to risk another pregnancy. This advice has been followed, and she has been in sufficiently good health to carry out her home duties as a shepherd's wife and the mother of one child. She still remains stout.

Case V. Mrs H. (29) 1st para. This woman, prior to her marriage, had been a patient for several years, and suffered from hyperpiesis. She had a persistently high blood pressure, but never exhibited any albuminuria. She frequently complained of headache and giddiness which were due to her condition of hyperpiesis. This did not clear up in spite of dietetic and therapeutic measures. She was warned that in the event of pregnancy occurring, she would require careful supervision. Pregnancy was notified on 3.11.30. and her expected date of confinement was estimated to be 26.5.31. Her general condition and urine remained good until two months before her expected date of delivery. At this time her urine showed a small quantity of albumin, and she complained of headache. With rest in bed and dietetic restrictions, she remained well. The foetus was normal in condition and

position. She came into labour and was delivered within twenty four hours on 27th May, 1931, of a healthy child. Her puerperium was normal for a week, and quite suddenly she developed acute puerperal mania. She took a violent dislike to her baby and her nurse. It was found necessary to employ two nurses to look after her, and after a difficult period of patient nursing and suitable sedative treatment, she made a complete recovery in five months from her attack of puerperal insanity. This case was treated in her own home from beginning to end, although on several occasions it was thought that she would require to be sent to a mental institution. Risk of further pregnancies was advised against, and this has so far been observed. She has been able to carry out her home duties alone quite satisfactorily and has not required medical attendance except for minor maladies.

Case VI. Mrs M. (35) 1st para. This woman, when in her "teens" had her appendix and gall bladder removed. The reason for the removal of the latter organ is not known. In April 1931 she aborted at the third month, and as there were some retained products of conception, it was necessary to curette the uterus. She made an excellent recovery from this illness, and she was advised to notify pregnancy as soon as it should occur, but that she should not become pregnant until at least six months had elapsed. In February,

1932, she conceived, and after one missed period, it was estimated that her confinement would be on or about 30th November. In view of her previous abortion, she was advised to rest completely in bed at her menstrual period times for the first six months, and she was given five grains of chlorate of potash daily. Her pregnancy proceeded along normal lines until October, when she began to have some dropsy of her feet. Her urine until then had been normal, and at this time she began to exhibit albuminuria. The feature of this albuminuria was that when the upper layer of urine in the test-tube was boiled, there was a very faint cloud, but on the addition of dilute acetic acid, the cloud became very dense. The blood pressure never rose above 136 mm. Hg. systolic. She was put to bed on a protein free diet and was well purged. However her albuminuria and dropsy persisted. As the baby was viable, and as it was extremely desirable that a living child be obtained, she was sent into a nursing home in Newcastle under the care of an obstetric specialist. On 16.11.32. he induced labour with the "stomach-tube" bougie, and after a great deal of difficulty in which he had to deliver with forceps, a living male child was born. For several days after the confinement, she was pyrexial, but was able to return home in a fortnight from the time of labour. She was able to suckle her child for

six months, and both she and the baby have continued in good health. It is interesting to note that at the time of writing (November 1934) this woman is twenty weeks pregnant, and to date her condition has remained in every way satisfactory.

Case VII. Mrs H. (28) 3 - para. This woman had had two previous normal pregnancies and labours, the second of which was attended by me. A month before her confinement was due, it was found that she had a mild albuminuria with a rise of systolic blood pressure to 160 mm. Hg. She was put to bed on a protein free diet, was well purged and her albuminuria and blood pressure settled down. She came into labour at the estimated date, and after an easy confinement was normally delivered of a healthy female child. She made a good recovery, was able to suckle her child, and is now, three years later, in good health.

Case VIII. Mrs D. (42) 6 - para. This woman, who had not been previously attended by me, had a history of former easy labours. It was estimated that she would be confined on or about 14th July 1933. Two months prior to this date, she developed dropsy of her feet and legs, her urine contained albumin, and her systolic blood pressure was 180 mm. Hg. She was treated in the usual way with protein free diet and purgation. Her urine improved but was never quite free of albumin, her blood pressure was reduced to 140 mm. Hg.

The foetus was found to be lying in the breech position, but external version, although attempted, was not successful. In view of her past history of easy labours as well as her toxaemic condition, I did not consider it advisable to attempt external version under anaesthesia, but to risk a tolerably easy labour in the breech position. She came into labour seven days before the estimated time, and in spite of the fact that her labour was short and very easy, her baby was still-born. She made an excellent recovery in a month and has remained well since.

Case IX. Mrs R, (32) 8 - para. This woman, who had been confined seven times previously, had never before had any trouble either at the time of labour or before. She had a normal pregnancy until about four weeks before the estimated time of delivery, when a trace of albumin was discovered in her urine. She had marked dropsy of her legs and feet, and a rise of blood pressure to 150 mm. Hg. systolic. She was at once put to bed on a protein free diet and was well purged. Her symptoms and signs entirely cleared up and she came into labour at the expected time, when she gave birth normally and easily to a healthy living child. This woman was kept in bed for three weeks after her confinement in order to ensure that she should make as good a recovery as possible, chiefly on account of the fact that she was the mother of eight children, and that she had them all, her husband and the house to look after. In this case the mother had never been able to suckle

her babies. For some obscure reason she never got any secretion of breast milk after her confinements. One very occasionally finds this state of affairs in the young mother. It would be indeed interesting to know why this should occur.

Case X. Mrs C. (23) 1 - para. This woman was a healthy young person who had never been under medical care since childhood, except for minor ailments. She engaged me for her confinement in August, 1934, and it was anticipated that labour would occur on or about 5th December, 1934. Her condition was excellent, her urine and blood pressure being normal. On September 12th her condition was normal, but twins were suspected, as her uterus was large, and a relatively small head could be felt in the lower pole. It could be easily pushed into the brim of the pelvis. One could not find a second head, nor could one be satisfied that more than one foetal heart could be heard. Foetal heart sounds were easily heard on the right side below the umbilicus where the back of the foetus could be felt. The remainder of the uterus had the appearance of containing more foetal limbs than one would expect from one foetus. On 6th November she called to see me with her urine specimen. She expressed herself as feeling very well, but had some swelling of her feet. Her urine was found to contain albumin on this occasion for the first time, the last specimen having

been examined 14 days previously when it was normal. The albumin reaction on this occasion was of the same curious character as that found in Case VI, viz: that when boiled there was a faint cloud which became grossly exaggerated on the addition of dilute acetic acid. Her blood pressure was found to be 148/84 mm. Hg. There was a dropsical swelling of small amount in her feet, legs and lower abdomen. The foetal heart was heard as before and the small foetal head was engaged in the pelvic brim. She was put to bed on a diet of water and glucose, weak tea without milk, and the juice of two oranges a day. She was well purged with Epsom Salts each day. In spite of this regime which was strictly adhered to, the albuminuria increased. The following day, the albumin reaction was of the usual type when tested by boiling, and the addition of dilute acetic acid, and the Esbach albuminometer registered 1 - after twenty four hours precipitation. The next day the Esbach reading was 2, and the following day 2+. Microscopically the urine showed cellular and granular casts and numerous epithelial cells. Her blood pressure fell to 140 mm. Hg, but not below that figure.

As the foetal heart was good and the woman in good condition for removal, it was considered advisable to send her into a nursing home in Newcastle, in order to have labour induced, and so save her from a possible eclampsia with still-born babies.

When she arrived in the nursing home, it was found that her urine contained much albumin with an Esbach reading of 7, and her blood pressure 148/90 mm. Hg. Under light anaesthesia surgical induction of labour was performed at 6.30 p.m. on 11th November. By 9 p.m. she was having slight pains. Labour progressed normally during the night and at 9.20 a.m. on 12th November, a healthy female child was born, weighing 5 lbs. 9 oz. Fifteen minutes later after artificially rupturing the membranes, the second baby girl was born, weighing 5 lbs. 1 oz. Both babies presented by the vertex. The following day a catheter specimen of urine showed albumin to be still present, but less in amount - Esbach reading 2. Three days after the twins were born, the albuminuria cleared up and the mother made a good recovery. She was unable however to breast-feed her babies, and they are thriving well on Humanised Trufood. Three weeks after admission to the nursing home, the mother was able to come home, where she is now able to carry out her usual housework. (December 10th).

Towards the end of pregnancy in many cases, one finds a trace of albumin in the urine, especially during the last two or three weeks of gestation. Along with the examination of the urine, the blood pressure should always be taken.

When this is done, it is frequently found that there is no departure from the normal in the blood pressure estimation.

I have always found that if the blood pressure does not rise above 130 mm. Hg. systolic, a mild degree of albuminuria is of little consequence. Its occurrence in my opinion is due to one or both of two causes:-

(1) Pressure by the pregnant uterus on the urinary organs, setting up a harmless catarrhal condition in them.

(2) Possible contamination from the more profuse vaginal discharge of mucus which is present towards the end of pregnancy. This cause can, of course, be excluded by the examination of a catheter specimen.

If there is a rise of systolic blood-pressure above 130 mm. Hg one should always view the case as a toxaemia and treat it accordingly.

Puerperal Sepsis.

In this series of 488, there were 5 (1.03%), cases of serious puerperal sepsis, in each of which there was a prolonged period of invalidity following parturition. Each of these cases exhibited definite evidence of a blood infection. I do not include those cases in which one finds transient rises of temperature for a day or two, which are found to be due in many cases to engorgement of the breasts with milk on the fourth or fifth day, or due to constipation, or due to a mild infection of the urine, which clear up quickly with a dose of castor oil or other purgative.

In the assessment of septic conditions in the puerperium, greater importance should always be paid to a continued increase of pulse rate, than to a rise of temperature, and in the great majority of these minor cases referred to, one findslittle or no acceleration of the pulse.

All the cases of puerperal sepsis in this series occurred in primiparae, four of these were cases of true puerperal sepsis, whereas the fifth was one of pulmonary tuberculosis. We will deal with the latter case in the first instance.

Case XI. Mrs G. (29) 1 - para. This woman was a healthy but small woman of slin build. She had never been suspected of having a tuberculous infection prior to her confinement, although at this time it was ascertained that a brother had spent some time in a sanatorium as a suspected case of Phthisis Pulmonalis. As far as could be gathered his sputum had never been found to contain tubercle bacilli, but apparently there was sufficient clinical evidence to warrant a diagnosis of tuberculosis.

This woman had a normal healthy pregnancy, and a long, slow but otherwise normal labour with no perineal laceration. She was not able to nurse her baby, there being little secretion of milk, but otherwise during the early days of the puerperium she appeared to be normal. Towards the end of the first week she commenced to have some pyrexia with

an increase of her pulse rate. Her uterine condition appeared normal. Eventually after repeated examinations of her chest, one detected a lesion on the right side behind, below the scapular spine, indicating a tuberculous focus in the apex of the right lower lobe of the lung. Her sputum which was scanty at first, but which later became more copious, was found to contain tubercle bacilli. She was at once sent to the county sanatorium, where she remained eight months and did extremely well. Thereafter she returned home and carried out sanatorium routine as far as possible, and except for two mild influenzal attacks, she has remained well and has been able to carry out her home duties with a little domestic help. As soon as she was discovered to be tuberculous, her baby was taken from her and looked after by relations until the mother returned from the sanatorium. The child is now 2½ years old and is a well-nourished healthy girl with no clinical evidence of the mother's disease.

The remaining four cases of puerperal sepsis proper show this point of interest. Two occurred in cases where there was considerable intervention on the part of the accoucheur, and two in which there was little or no intervention.

Case XII. Mrs S. (31) 1 - para. This woman had a normal pregnancy, but was a case of hydramnios with twins. She

had a very long and tedious labour with an early rupture of the membranes. She was in labour for forty eight hours, before she delivered herself of the first twin boy, which presented by the vertex. She was in a condition of great exhaustion after this birth and accordingly she was given sedatives in order to procure for her some rest. The second twin which also presented by the vertex was born forty eight hours after the first boy. There was very little haemorrhage during the interval between births. The twins each weighed over eight pounds and were still-born. Following the second birth, the placenta was delayed for more than two hours and it was necessary to remove it manually. Early in her puerperium, she exhibited signs of sepsis with a rapid pulse, pyrexia and rigors. She was treated symptomatically and carefully nursed by a very competent cottage nurse. She eventually made a complete recovery. There is no doubt that in this case the sepsis was due to the large amount of manual intervention during her long labour. Looking back on her case, it is difficult to see what could have been done for her, unless in view of her bulk, she had been induced at the 36th week. This did not appear necessary at the time as the foetal head was firmly engaged in the brim of the pelvis, and one anticipated that her labour would not be unduly difficult.

Case XIII. Mrs M. (24) 1 - para. This woman had a normal pregnancy and came into labour four weeks after the expected date of her confinement. She had a long and tedious labour after an early rupture of the membranes. The labour was eventually terminated with low forceps and she was delivered of a 10½ lb. still-born male child, involving a laceration of her perineum. She did well for ten days and then developed phlegmasia alba dolens, first of her left and later of her right lower limb. She became pyrexial with this complication and was confined to bed for fifteen weeks. Eventually she made a complete recovery. There is no doubt that her condition was due to septic parametritis with thrombosis of the iliac veins, which completely resolved. This occurred in 1928 and she has remained in good health since then, but there have been no further pregnancies. In this case the portal of entrance of the infecting bacteria was undoubtedly the traumatic lesions inflicted during the forceps delivery of a very large child. During her labour and succeeding illness she was very competently nursed by a cottage nurse.

Case XIV. Mrs. M. (24) 1 - para. This woman had a perfectly normal pregnancy, but a precipitate labour. She is a tall, healthy, loosely-built woman with broad hips and a spacious pelvis. She was nursed by a private nurse of the old school. Unfortunately the nurse did not occupy the

same bedroom as the patient. The confinement was estimated to take place on 12th November 1930. On the evening of the 17th November she was given a liberal dose of castor oil by her nurse, and about 3 a.m. on the 18th November, she was wakened from her sleep by a pain which she attributed to the purgative. She adjourned to the water closet next door, and had a movement of her bowels, as well as several very severe pains. She returned to her bedroom in a few minutes and before she could get into bed her baby was born. The child fell to the floor, the umbilical cord was torn through, and the mother was helped into bed. Her placenta and membranes were evacuated completely and she was found to have a perineal laceration necessitating the insertion of three silkworm gut sutures. Her labour from beginning to end did not exceed fifteen minutes. She did well for five days, then very suddenly she had a rigor with a rise of temperature to 104°. Her perineal sutures were removed and the wound was left open. Her temperature quickly fell to normal in three days, but her pulse rate came down more gradually. She was able to suckle her baby and after a convalescence of two months, she made a complete recovery. In this case there was no interference before the baby was born, and it is certain that her sepsis was introduced through the perineal laceration. To my mind, there is no doubt at

all that in domiciliary midwifery, the nurse in charge should occupy the same room as the patient at night, and should be specially prepared to render immediate help to her, if any castor oil or other purgative has been administered. Another point in this case is the fact that the nurse used an antiseptic called "T.C.P.", the efficacy of which both the obstetric specialist, whom I called upon to see the case with me, and I myself have doubt about. This is the only case in which I have seen thisantiseptic used, and needless to relate, I have never allowed its use in any of my cases since. This woman made a complete recovery, and it is interesting to note that in May 1934, she was confined again. She again had an extremely precipitate labour. She was only conscious of two pains before the birth of the baby, which occurred at 4 a.m. On this occasion her nurse was asleep in a bed alongside hers, and was able to be on the spot when parturition took place. There was no perineal tear, the placenta and membranes were evacuated about an hour later and the mother made a normal recovery.

Unfortunately the baby, on this occasion, was found to have a complete absence of his palate, although his lips and alveolar ridges were perfectly developed. He was fed with mother's milk expressed into a "premature feeding-bottle." When it was found necessary to supplement his

feeding with dried milk, he developed infantile eczema, and later on a septic infection of his skin, shown by the occurrence of multiple subcutaneous abscesses. It is probable that this was a superadded infection to his eczema, and that it originated from a nurse who suffered from several boils on her chin. The skin condition has now (November) cleared up and it is hoped in a few weeks to have his palatal deficiency operated on. The surgeon who is going to do the operation expects that it will require to be done in three stages on account of the severity of the case, and he hopes to have it completed by the time the boy is two years old.

Case XV. Mrs G. (29) 1 - para. This woman who is not of a robust nature but who had never had any serious illness, had a normal pregnancy. She had however a number of carious teeth, which should have been removed. She commenced her labour about 10 p.m. on 25th December, 1933, with a brisk haemorrhage when she lost about half a pint of blood. Vaginal examination revealed nothing abnormal and the membranes were apparently unruptured in spite of the excessive "show." Her labour, under the supervision of a cottage nurse, progressed normally during the night and about 7 a.m. the following morning, her baby was born naturally. She had a small tear in her perineum, necessitating two sutures. The placenta and membranes were evacuated normally. About

two hours after the birth, she had a copious haemorrhage which blanched her and accelerated her pulse. This settled down quickly after the hypodermic administration of fifteen units of pituitary extract. Her condition remained satisfactory until the fourth day, when she showed a rise of temperature and a quickened pulse. She rapidly got worse and had several rigors. Her perineal sutures were removed and the wound left open and douched with peroxide of hydrogen, and biniodide of mercury lotion (1 - 1000). This did not improve matters. She remained feverish and extremely weak with some abdominal distension and a marked streptococcal membrane on her fauces. Her lochia stopped, and she became an extremely ill woman, who looked like dying. She was given anti-streptococcal serum on nine successive days, as well as a quinine and iron mixture by the mouth. After hanging in the balance for a fortnight, her condition began slowly to improve, and after being confined to bed for three months, she was able to get up. Since then she has gradually regained her strength and she is now perfectly well and able to look after her baby and do her housework. This case is interesting from the fact that she was only examined per vaginamby me on one occasion, at the commencement of her labour, and according to the nurse in charge she was examined twice by her in my absence.

There was almost a minimum of pre-natal and natal interference, yet of all the septicaemic cases in this series, this woman was the most gravely ill. There were no inmates of the house suffering from sore throats and no evidence of infection having been carried from another septic patient.

When one consults the statistics, one finds that there has been no decrease in the maternal mortality due to puerperal sepsis during the years 1927 - 1933, nor has the incidence of notifiable puerperal sepsis decreased to any extent. The majority of cases are due to the haemolytic streptococcus, and it is inconceivable that puerperal sepsis can be utterly eradicated from the community until it is possible to completely annihilate this offending organism. Complete annihilation of this or any other organism is to my mind beyond the wit of man. We will always have the risk of puerperal sepsis to contend with in midwifery practice. By competent ante-natal care we must bring the expectant mother to her confinement in first class physical and mental condition, and by most careful aseptic and especially antiseptic technique during labour and the puerperium, we must do our utmost to protect the parturient woman from this relentless enemy which is lying in wait to pounce upon her unawares.

Accidental Haemorrhage.

This complication occurred in three (.6%) cases. In Case IV already described it occurred as a complication of severe albuminuria, and resulted in a still-born baby. The other two cases were 3 - para and 4 - para women, neither of whom revealed any abnormality during pregnancy. Both women showed normal urine, and in each case a month before the expected time of delivery, there were severe ante-partum haemorrhages followed by quick labours and the birth of still-born children. In one case the foetus had a large spinal meningocele and a club-foot. There was no obvious cause for either case and in each instance placenta praevia could be excluded. The subsequent invalidity was short, the women being quite fit for their housework in a month from the time of labour.

Placenta Praevia. 2 cases. (.4%)

Case XVI. Mrs P. (28) 4 - para. This woman had several ante-partum haemorrhages over the period of a week, and then sent for me when she was bleeding profusely and in labour. The os was well dilated and one could feel the edge of the placenta. The head was presenting. Pituitary extract - 5 units - was given and in a short time the child was still-born. Her placenta and membranes were delivered intact, and she made a good recovery in 14 days. This was a case

in which no notification of pregnancy was given until the woman was in labour and consequently no ante-natal supervision was possible. It is probable that had this woman been properly supervised during her pregnancy, she might have had a living child, instead of the unfortunate ending to her gestation just described.

Case XVII. Mrs A. (21) 1 - para. This woman, who is a small but healthy person, had severe uterine haemorrhage during the third month of pregnancy. It was so severe that one considered she had aborted, but had some retained products of conception. She was sent to a maternity hospital in Newcastle for curettage. However, the specialist who saw her there was of the opinion that she was a case of threatened abortion only, and that she would settle down and go to full term. From the 3rd to the 7th month, she remained well and showed no evidence of toxaemia. Her confinement was expected on 25th February, 1933. On 19th December, 1932, she had a very severe uterine haemorrhage. On abdominal palpation it was discovered that the foetal head was in the fundus and the breech in the lower pole of the uterus. On vaginal examination the cervix felt like "wet blotting paper" and placenta praevia was diagnosed. Her bladder was emptied with the catheter, and forthwith her vagina was packed tight under anaesthesia with one pound of sterile cotton wool. She was sent back to the maternity hospital. Here she came

into labour and was delivered of a still-born premature infant. She made a tardy but good recovery in six weeks.

This case was one of those which in rural practice are difficult, as she lives in an isolated shepherd's cottage out on a moor about a mile and a half from a bad road. On this occasion, it was necessary to carry the patient on a stretcher over this moor, on a wet and windy December morning to a waiting car which conveyed her 50 miles to hospital.

It is interesting to note that in October 1934 this woman was confined again. She had a perfectly normal pregnancy, and her labour was terminated by a low forceps delivery after lasting about twenty-four hours. Her baby is healthy and she has made a normal recovery.

Puerperal Insanity. 2 cases. (.4%)

In this series two cases occurred. Both were primiparous women. One case has already been described - Case V - where there was definite previous hyperpiesis and albuminuria during pregnancy.

Case XVIII. Mrs M. (36) 1 - para. This case was that of a healthy woman, who shortly after her marriage suffered for some weeks from a nervous breakdown, in which she appeared to lose temporarily her self-confidence, and suffered from sleeplessness. This illness was gradually recovered from, and she remained healthy until after her baby was born.

Her pregnancy was normal except for the fact that at the fourth month she had a very small uterine haemorrhage, which did not continue for more than a few hours. She was confined to bed for a few days, the condition completely cleared up, and she remained well until the expected date of delivery. Her confinement took place in a nursing home in Newcastle, and she was under the supervision of an obstetric specialist. Labour was normal, it lasted about eighteen hours, and she gave birth to a healthy male child. The puerperium was normal for a week and normal lactation was established. Suddenly on the eighth day she exhibited maniacal signs, and became very difficult to manage. She was taken home and nursed there for three months with considerable difficulty. Her condition steadily retrogressed, and it was found necessary to transfer her to a mental nursing home where she was put under the care of an alienist. Eleven months after her confinement she was well enough to return home, where after a period of about three months, she was able to resume her accustomed place in the household, and she has remained well since.

In Case V there was a very definite toxaemic condition which could account for the mental complication which ultimately developed.

In Case XVIII, there was no evidence of toxaemia, the urine and blood pressure remained normal during pregnancy. There must however have been some undetectable toxaemic condition present to cause the two abnormal phenomena in the case. (1) Slight haemorrhage at the fourth month. (2) Puerperal insanity. The toxaemic element must have been slight as was evidenced by the smallness of the haemorrhage, but it must have been sufficiently potent to unbalance a nervous system which was very finely poised.

These two cases of puerperal insanity both got perfectly well and were able to do their ordinary work as efficiently as before. In puerperal insanity, which fortunately for all concerned, is a rare complication of childbirth, it is the general rule for the patient to recover completely her mental balance, even though the period of mental invalidity may be somewhat prolonged.

Phlegmasia alba dolens. (.4%)

Two cases of this condition occurred in the series. Both were primiparae. One case has already been described under the section dealing with puerperal sepsis, Case XIII.

Case XIX. Mrs B. (24) 1 - para. This case was very unusual as the condition of "white-leg" occurred during the last month of pregnancy for no apparent reason. During

the first eight months of pregnancy this woman was in perfect health, and then she suddenly developed all the signs of "white-leg" in her left lower limb, presumably due to thrombosis of the femoral or iliac vein. She remained a-febrile and under symptomatic treatment with complete rest in bed, the swelling subsided before she came into labour. Labour was terminated with low forceps and resulted in the birth of a child almost ten pounds in weight. There was no evidence of a recurrence of white-leg post-partum, but as a precautionary measure, she was kept for four weeks in bed and she made an uneventful recovery.

Abnormal cases which did not result in Maternal Morbidity.

This section includes the following cases:-

(1) Hydramnios. 2 cases.
(2) Hydrocephalic foetus. 2 cases.
(3) Precipitate Labour.
(4) Induction of premature labour.
(5) Manual removal of placenta.

Hydramnios. This complication occurred in three cases altogether in the series, one of which was a morbid case with twins and has already been described - Case XII. The other two cases occurred in multiparae - women who had on previous occasions borne healthy children. In each case labour came on about a month before it was expected. In one case the child presented by the breech and was born alive, but was anencephalic and only lived two days. In the

second case the child was still-born, the foetus having an open spina bifida and club feet. In both instances, the mothers made uninterrupted recoveries, and in the anencephalic case, the mother five years subsequently bore a healthy living child.

Hydrocephalus. 2 cases.

Case XX. Mrs H. (37) 2 - para. This woman who was a healthy subject, had a normal labour with her first baby, who was born alive and well. When she came into labour on this occasion it was found that the foetal head, which had not appeared unduly large beforehand, would not enter the pelvic brim. Labour was allowed to proceed until the os was fully dilated, and when the membranes ruptured it was found that the sutures of the foetal skull were widely open and that there was no moulding of the cranial bones. The foetal skull was perforated with Simpson's perforator and a large quantity of blood-stained fluid evacuated. The skull collapsed and the foetus was expelled dead by the mother in a normal manner. The foetal head was enormous. The mother made an uninterrupted recovery and was up and about at the end of a fortnight. It is a curious coincidence that this woman, about a year later, developed a very ill-defined cerebral illness with convulsions. After three weeks illness she died during a very severe series of fits and post-mortem, it was found that she had suffered

from a congenital aneurysm of the anterior cerebral artery which had ultimately ruptured.

Case XXI. Mrs G. (23) 1 - para. This woman had a normal pregnancy, but at no time could one be certain of feeling the foetal head by abdominal palpation. This manoeuvre suggested a breech lie of the child, and attempts at external version were apparently unsuccessful. She came into labour, and after a normal first stage, it was definitely recognised that the foetus was presenting by the breech with extended legs. After a good deal of difficulty the foetal legs, body showing a spina bifida, and the arms were delivered, and then it was discovered that there was an enormous hydrocephalic head which could not be delivered. The skull was punctured through the nape of the neck, and a large quantity of blood-stained fluid drained off, whereupon the skull collapsed and was easily delivered, the foetus of course being dead. This woman made a normal recovery, and it is interesting to note that two years later she became pregnant again, but had a complete abortion at the third month for no obvious reason.

Precipitate Labour.

In addition to the case already described - Case XIV - which on two successive occasions has had very precipitate labours, this complication of labour occurred in two other primiparae, both of whom bore living children, and made

normal recoveries. In both cases a nurse was present when the birth took place.

Induction of Premature Labour.

In this series of 488 cases, it has been found necessary to induce labour on 6 (1.2%) occasions. In every case the operation has been performed by an obstetric specialist in a maternity hospital or nursing home, and in each case it has resulted in a living child or children.

In two of the cases of albuminuria described - Case VI and Case X - this operative intervention was successfully carried out with good results both to mother and children. The other four occasions on which the procedure was adopted, were in cases of disproportion in which at the 36th week of pregnancy it was found that the foetal head would not enter the maternal pelvis. One woman has been successfully induced on three occasions and another was induced when she had her first baby. In this latter case, it is not known whether there have been any further pregnancies. Both of these women had generally contracted pelves, and were of small build as a whole.

Manual Removal of Placenta.

This was found necessary in four cases, in one of which - Case XII, already described - the mother subsequently developed puerperal sepsis and made a good recovery. In the three

remaining cases the procedure was performed without in any way prolonging the period of puerperal invalidity.

Foetal and Infant Mortality.

I. Foetal Mortality.

In this series of 494 births, there were 24 still-births representing a still-birth rate of 48.8 per 1000 total births. In England and Wales during 1930 the corresponding figure was 41 per 1000 total births.

The 24 Still-births may be classified as follows:-

(a)	Definite maternal morbidity present, e.g. albuminuria, accidental haemorrhage, etc.,	7.
(b)	Labour supervened prematurely for no apparent reason,	5.
(c)	Labour at full time - no apparent reason for still-birth,	5.
(d)	Foetal deformities - mother healthy,	3.
(e)	Excessive size of foetus - mother healthy,	3.
(f)	Breech presentation,	1.
	Total:	24.

II. Infant Mortality.

During the eight years under review there were 23 deaths of children under one year. This includes three deaths of children, whose births were not attended in the practice. Conversely, there may have been some children whose births were attended, who have died within one year of birth without my knowledge, as in this type of rural practice the agricultural workers, move about from farm to farm a great deal, and frequently move to an area without the confines of the practice.

Twenty three deaths of children under one year of age

in an area where there have been 470 live births, makes an Infantile Mortality Rate of 49 per 1000 live births. One infant death was an illegitimate child.

The average Infant Mortality Rate for England and Wales during the years 1926 - 1933 was 66 per 1000 live births.

Ages at Death.

Under	1 day	- 8.
"	1 week	- 6.
"	1 month	- 2.
"	6 months	- 5.
"	12 "	- 1.

Causes of Death.

Premature Birth	6.
Congenital Abnormalities	8.
Meningitis	2.
Pink Disease	2.
Whooping Cough	1.
Icterus Neonatorum	1.
Melaena Neonatorum	1.
Acute Bronchitis	1.
Convulsions	1.

When we survey the probable causes of still-birth and deaths of infants under one year in this series of cases, we find that there were at least 22 out of the 47 cases which might have been prevented. They comprise,

(1) Still-births, seven due to maternal morbidity; five due to premature labour; three due to excessive size of foetus, and one due to breech lie of the foetus.

(2) Infantile deaths, six due to premature birth.

Accurate ante-natal care should enable us to mitigate, if not obviate the results of albuminuria, accidental

haemorrhage and premature labour. We do not as yet fully comprehend the causes of premature labour, but it is not impossible to believe that the more we search for the causes of this phenomenon among those smaller and less easily recognised departures from the normal during pregnancy, the more successful will we be in counteracting its occurrence, and so enable more women to go to full term and thereby decrease the still-birth and infant mortality rates.

Accurate ante-natal work should enable us to determine those cases which require timely induction of premature labour, in order to avoid the death of the infant due to excessive size, and to recognise the breech lie in time to perform external version if it is possible.

Close attention to all the details - aseptic and anti-septic - at the time of labour, should enable us to obviate those still-births due to mishandling at that time.

Congenital deformities of the foetus can never be anticipated with accuracy, and it is impossible to hope that this developmental cause of foetal and infantile mortality can be eliminated.

We are forced to the inevitable conclusion that not only the safety and well-being of the mother, but also that of the baby is dependent first of all on careful ante-natal supervision, and secondly on the careful conduct of labour and the puerperium.

Mortality of Pregnancy.

During the eight years under review, I have seen two women die as a direct result of pregnancy. Both were cases of very severe Hyperemesis Gravidarum and showed very definite clinical evidence of acute yellow atrophy of the liver. Unfortunately a post-mortem examination was not obtainable in either case.

Case XXII. Mrs H. (32) 4 - para. This woman had previously borne three healthy children. In her previous pregnancies of which I had not personal knowledge, she had had a considerable amount of morning sickness in the early months. In her fourth pregnancy it was very marked indeed and quickly became excessively severe. Her liver quickly shrank until there was only dullness to percussion of two fingers breadths in front, and behind it could not be delineated. Her urine became scanty and only shortly before death was it coloured with bile. She was between four and five months pregnant when she died.

Case XXIII. Miss M. (35) 1 - para. This was an unmarried woman, pregnant for the first time. She engaged me for her confinement on 10th May, 1934, and it was estimated that labour would supervene about 22nd November. When first seen she had been much troubled with morning sickness, and having previously had excellent health, she was doing her utmost to belittle her invalidi

and conceal her condition from her mother and sister with whom she lived. There is no doubt that the woman suffered a great deal of mental discomfort during the first three months of her pregnancy and confided in no one until I was called to see her.

In spite of dietetic and medicinal treatment, her sickness got steadily worse until she began to vomit everything she took. She became very emaciated and exhibited signs of severe acidosis with much acetone in the urine but no albumin. At this stage the room in which she lay was permeated with the unmistakable odour of acetone. Her liver suddenly diminished in size to percussion, and after lying unconscious for a day, died on 9th June. As in the first case there was no bilious discoloration of the urine until a day or two before death. This woman died when she was about sixteen weeks pregnant and clinically there is no doubt that the cause of death was acute yellow atrophy of the liver.

Reviewing these two cases of fatal Hyperemesis Gravidarum which have occurred in the practice, one is quite certain that there is no method of treatment short of therapeutic abortion which is likely to prevent a fatal termination in such cases.

These cases are undoubtedly toxaemic in nature, the causal factor in all probability originating in the intra-uterine

products of conception and setting up the liver atrophy, which is the main gross clinical sign.

It is extremely difficult to decide how far one should persist with dietetic and drug treatment before deciding on the serious alternative of therapeutic abortion. From one's experience of these two cases, in both of which the liver rapidly diminished in size towards the end, it would appear that abortion to save the expectant mother's life should be heroically decided upon as soon as possible after it is found that vomiting continues in spite of the usual dietetic and drug treatment, and definitely before there are signs of the liver diminishing in size.

THE FUTURE OF MIDWIFERY.

At the present time this subject is receiving a great deal of attention, not only from the various branches of the medical profession, viz: the general practitioner, the obstetric specialist and the public health official, but also from the public at large. Maternity work in the past has been subjected to much criticism both in the medical and the lay press. To-day there is not the public reluctance to discuss matters pertaining to sex that was the characteristic of a generation or two ago. The lay press frequently publish articles on the subject which are extracts, not always accurate, from current medical journals. These articles provide "good copy" and are eagerly read by the public which is easily tempted to criticise a branch of medicine of which it has little accurate knowledge. In this way the medical profession and those practising midwifery, are often the victims of ill-informed criticism, the way of escape from which is not easy. The only satisfactory way out of the difficulty in my opinion is for the profession to do what they can to educate public opinion along the right lines, and at the same time to improve on its methods of dealing with the subject, to such an extent that adverse lay criticism is circumvented.

The practice of medicine, surgery and midwifery, is not an exact science similar to mathematics, physics or chemistry. It never can be, for the main factor in medical work is the patient - a human being. It is unnecessary to attempt to describe the numberless characteristics of a human being, and it is well nigh impossible to do so. Each individual is different, not only physically but psychically. Each one reacts differently to the same stimulus. Each one may be the victim of a different pathological change, minor or major, or a combination of such changes. It is, therefore, impossible successfully to carry on medical work in any form by adopting a "rule-of-thumb" attitude, or attempting to draw up codes of inviolable rules to govern every possible eventuality in the life of the individual.

The profession of medicine is an art not a science, and although in the early years of medical training, the student obtains his knowledge in a manner similar to that of the exact sciences, it is only when he comes into contact with patients, and realises the numerous potentialities in each one, that his real education in the art which he professes, commences and continues as long as he is in practice. This factor - the factor of experience - in the art of medicine is a most important one in the conduct of maternity work, and will play no unimportant part in the future success of midwifery in

this country.

The success or failure of maternity work in this country is estimated by a study of the figures published by the Registrar-General, giving details of maternal mortality and morbidity. In recent years there has been little or no reduction in these figures, and in 1932 the Departmental Committee on maternal mortality and morbidity published its final report of the prolonged enquiry into maternal deaths and morbid conditions associated with child-bearing. To anyone interested in maternity work, a careful study of the publication will well repay the time required. It is not possible to go fully into this report here. Inter alia it points out that there is much room for improvement in the attitude towards childbearing not only by those who superintend the phenomenon, but also by the expectant and parturient woman herself.

The Committee's inquiries show clearly that the mental attitude of the mother herself, not only towards ante-natal supervision, but throughout childbirth and the lying-in period, is a factor of the greatest importance. A vigorous campaign for the improvement of maternity services is handicapped by the difficulty of making statements which are sufficiently arresting to attract general attention, and at the same time avoid over-emphasis of the difficulties and dangers of child-bearing, which might create exaggerated anxiety in

future mothers. It is essential that women should realise that pregnancy is a serious business, which they should not be expected to face without the advice and support of their doctor; that while it is a personal matter and not a subject for gossip or outside comment, it is important for them to seek confidential and competent advice at the very beginning, as a safeguard against possible danger; and that the pain and hazard of childbirth and the puerperium can be reduced to a minimum by the attention of a doctor already familiar with the individual's physical and mental peculiarities. Until every woman accepts this continued supervision as a matter of course, she will never make full use of such facilities as are offered her by the profession

The possible dangers of childbearing should never he over-emphasised, on the contrary the young woman should at all times be informed of the priveleges and safety of normal properly supervised motherhood. The mother alone should not be the sole recipient of this advice. When the husband, relatives and friends - in fact the general public - understands that the pregnant woman requires more skilled advice than can be obtained in her own family, or drawn from her own experience, the steady pressure of common sense, public opinion and fashion will eventually induce her to turn to her doctor, for early and continued supervision, because

everyone takes it for granted that she should. This is the outlook we must strive to cultivate in the general public, and it can be done in various ways, the most important of which is the personal information and guidance given by the family doctor.

When the general public have fully realised its obligations with regard to maternity work, those who engage in the supervision and management of the child-bearing woman will find that their work is made much easier, and is more likely to meet with greater success than heretofore.

The medical practitioner and midwife must realise that in the conduct of ante-natal care, labour and the puerperium, no slip-shod work must be allowed. Each action taken must be taken with extreme care and thoroughness, and above all each doctor or midwife must be able to realise his or her limitations with regard to diagnosis and treatment, and when in doubt refer the particular case to an obstetric specialist for further advice. In order to be able to do this, the preliminary training of the doctor must be of a high standard, and intensely practical, and when he or she commences practice after graduation, it would be a great advantage for each to spend some time in association with a senior colleague of experience in the work. Experience in medical practice is of prime importance - how important we only realise as the

years pass and our experience accumulates.

I consider it would be a step in the right direction if in Medicine, we went back to the old idea of apprenticeship, and made it a compulsory rule for every graduate in medicine to serve for a term - say a year at least - as an understudy to a general practitioner of experience. This suggestion would, I am sure, be of inestimable value to all medical men whether following the calling of family doctor, specialist or public health official. It would enable each to appreciate to the full the problems to be faced by the general practitioner in his contact with disease in the individual, and we must always remember that it is the general practitioner who occupies the front-line trenches against disease. In this way the co-operation which is essential between the various sections of the medical fraternity in their battle against disease, would be strengthened to a very great extent, and the general public would reap the greatest benefit which is possible from the profession. In the foregoing remarks I have generalised, but it is self-evident that the same remarks hold good with regard to maternity work, which I consider is inseparable from the practice of medicine in general.

Regular refresher courses under the guidance of men, who are recognised authorities in obstetrics, should be undertaken by those who practice midwifery and by all general

practitioners in order to keep abreast of recent advances in the art, so that the benefits of the latter may be put into actual practice with as little delay as possible. This "brushing up" of knowledge from time to time applies in like manner to the other branches of medicine and surgery, in which it is equally essential for the general practitioner to have a knowledge of recent advances. The institution in London of the new post-graduate school, staffed by men of distinction in their subjects will no doubt help in this direction. It is not without the bounds of possibility that in the future, it will be encumbent on all medical practitioners in active practice to take regular post-graduate courses, whilst they continue in practice.

For the successful conduct of midwifery, it is important to have continuity of supervision by the doctor during pregnancy, parturition and the puerperium. Any part of this supervision should not be entirely delegated to the midwife. The midwife or maternity nurse, who should hold the certificate of the Central Midwives' Board, should at all times be the doctor's assistant in the supervision and management of the case from beginning to end. In my opinion the midwife of to-day has not a sufficient knowledge of medicine in general to have entire charge of the child-bearing woman, who, whilst in most cases exhibiting a normal physiological process, is very near the pathological boundary. When this

boundary is crossed, prompt recognition and treatment are necessary, and this can only be done satisfactorily by the doctor who possesses the necessary training and knowledge.

As with the doctor's, the midwife's training should be thorough and essentially practical, and the regualr provision of revision and refresher courses should be a compulsory condition in the service.

The great majority of maternity cases pursue a normal course, and it is essential that all who supervise midwifery in whatever sphere they happen to be, whether family doctor, obstetric specialist or midwife, should be perfectly familiar with the phenomena of normal pregnancy, parturition and puerperium. This familiarity can only be gained by constant observation and conduct of cases. If this is done the accoucheur gains an insight into the wonderful way in which Nature operates upon the child-bearing woman. It has been said by some that ante-natal supervision may inculcate in the individual a wrong idea of pregnancy, so that he or she may assert that the abnormal is present where it does not exist, and that it tends to make the enthusiast exaggerate the minor deviations from the normal, which Nature if left to herself will easily overcome. In this way it is asserted that ante-natal supervision is the precursor of "meddlesome midwifery" with all its attendant dangers. To the person who has an accurate knowledge of his or her work

and who regards his or her patients and his or her duty to them in the right light, this accusation should never apply. The accoucheur should at all times be able to recognise what is within normal limits, and not be so morbidly minded as to scent the abnormal where it does not exist. The abnormal is the exception in midwifery work, and careful ante-natal supervision should enable it to be recognised in time to allow appropriate treatment to be carried out.

The conduct of labour and the puerperium should be carried out with rigid adherence to antiseptic and if possible aseptic precautions. Antiseptic precautions are the more important, as no matter how meticulous one may be, it is almost impossible to obtain absolute asepsis in midwifery work. Asepsis should be the ideal always to be aimed at, if not always attained.

The normal and natural place for the baby to be born is in the home of the parents. This is the custom in rural areas, where it is very exceptional for the expectant mother to desire to be confined away from home. I have often interrogated women on this point, and have found an almost universal desire on the part of country mothers to have their babies in their own homes and under the supervision of their own doctor. If we postulate domiciliary midwifery as an essential factor in maternity work, and I think we should, then we have a very powerful argument for the provision of

better housing conditions for the people. Many of the houses in rural districts are old and too small, without modern sanitation$, and in consequence they are not as suitable for midwifery work as they ought to be. If every house in the country had as a minimum three or preferably four living apartments in addition to modern sanitary conveniences,and food sto domiciliary midwifery could be carried out under almost ideal conditions.

The maternity hospital, in which patients are under the care of the obstetric specialist, should be reserved for the treatment of abnormal cases, recognised by the family doctor during his ante-natal, intra-natal or post-natal work. Except in teaching centres the maternity hospital should not be used for the conduct of normal cases.

The family doctor should not be encouraged to carry out in the patient's home any case except the normal, and the low forceps case. Other difficulties should be recognised in time by the doctor in order to allow of their timely admission to hospital for treatment.

It would be a commendable addition to our maternity services in the country at large, if suitably staffed maternity hospitals were available within reasonable distance of every part of the land, so that the necessitous patient could be transported there, say within two hours.

It is not possible to visualise such wholesale

improvement in housing as being attainable in the near future. Improvement in housing conditions will be a gradual process, and no doubt it will eventually take place. In the intervening period which must elapse until this improvement is an accomplished fact, it would be a great advantage in country districts at least, and probably in industrial areas as well, to have in each village and town, a small "labour-unit" in which women, living under unsuitable housing conditions, could be confined. It is possible that such labour units could for administrative purposes be attached to the local poor-law hospital or institution, if such be available. Until a few years ago, when the Poor Law was amended, we had in this village in our poor law hospital, a labour ward which was available for private patients at a moderate fee. This facility was taken advantage of by mothers whose home surroundings were not suitable for a confinement. Under the Poor Law scheme, our small hospital, along with its labour ward, has been closed, and in the village we have now no substitute. This centralisation of hospital accomodation will no doubt make the care of the pauper class an easier matter to deal with, but it does not help to any extent in the provision of institutional treatment for the poorer class of private patient who still desires to retain the services of the family doctor. Poor

law cases can of course be admitted free to the poor law hospital where they are under the supervision of the medical officer to that institution.

Every parturient woman should have the services of a fully qualified maternity nurse in addition to those of the family doctor. The nurse should live in the house with the patient, and occupy the same room at night, of course using a separate bed. It is an important point that the maternity nurse should have no other patient to attend to except her maternity case. Were housing conditions such as I have described, there would be no difficulty as far as accomodation for the nurse was concerned, and it would tend to make domiciliary maternity nursing amongst the working class a much more attractive career for girls than it is at present.

The visiting district nurse should be done away with as far as maternity work is concerned, and her activities confined to the supervision of other surgical and medical cases. Were this the case, the visiting district nurse need not possess a maternity qualification, but should be thoroughly qualified in general nursing.

As I have pointed out in a previous section, there is a determined attempt being made in this county of Northumberland which has met with a large degree of success, to substitute the resident nurse by the visiting district nurse. This

is, in my opinion, definitely a step in the wrong direction, and one would gladly see it stopped and the system I have outlined adopted all over the country. It would entail some expense and much organisation, but would enable the working class mother to have those benefits of domiciliary nursing, which her better class sister can afford to pay for.

I am always surprised at those ladies of leisure, mostly of the spinster class, who interest themselves in nursing associations, and advocate the substitution of the visiting district nurse for the resident nurse. I am quite certain that they do not understand the circumstances of the working class mother, and am equally confident that if they themselves were in her position, they would see to it that they had at least one nurse to themselves.

In this rural area, I have already stated that in most instances, each mother is able to have a resident nurse and in this respect I am sure we are carrying on our maternity work in the ideal way.

The provision of sterilised maternity outfits, at reasonable cost for those who can afford them, or free for those who are not able to do so, would be a great advantage, and would undoubtedly help in the prevention of sepsis, which is always the bogey of maternity work, wherever it is conducted.

The ideal maternity service, not only in country districts, but in all districts, would be obtained if the following suggestions were carefully carried out by those concerned:-

1. Early notification of pregnancy to the family doctor.

2. Continuous and careful supervision of the child-bearing woman by the family doctor during her pregnancy, labour and puerperium.

3. All normal confinements conducted in the patient's home under good housing conditions such as have been described. Labour units provided for the conduct of cases where housing conditions were not suitable, until housing conditions generally have reached the standard mentioned.

4. Maternity hospital accommodation for the abnormal case.

5. A resident maternity nurse for each case.

6. The provision of sterilised maternity outfits.

7. The very thorough training of the medical student in the practical side of midwifery work, and an apprenticeship immediately after graduation under the supervision of a senior colleague of experience in the work.

8. Regular post-graduate courses for all practitioners engaged in the work.

9. The very thorough training of pupil midwives in the art of domiciliary obstetrics, by persons of recognised ability and experience in the work.

10. Regular "post-graduate" courses for all maternity nurses and midwives.

SUMMARY AND CONCLUSIONS.

Summary.

Midwifery practice in a rural area is carried out under the direct supervision of the family doctor. The manner in which, and the conditions under which, he carries out his duties have been described. The rural practitioner is the "Family Doctor" in the true sense of the term, and as such he gains much experience in the art of domiciliary obstetrics. Having an intimate knowledge, not only of the medical history, but also of the environment and mental and physical peculiarities of his patients, he is in an unique position to be able to guide the child-bearing woman successfully through her pregnancy, parturition and puerperium.

An historical survey of the evolution of the obstetric art from the earliest days to the present time has been given. It demonstrates how the art was first of all shrouded in mystery and carried out in empirical fashion. In the face of much opposition, the great obstetricians of the past, by their untiring energy and zeal, gradually placed the art on a firm anatomical basis. This was followed by the epoch-making discoveries of the obstetric forceps, antiseptics and anaesthetics. These, along with the more recent recognition of the great importance of ante-natal supervision, have made midwifery to-day a comparatively safe procedure

when contrasted with the conditions which existed in the early empirical days.

Details of the manner in which maternity work in a rural area is conducted have been given. The family doctor has personal charge of each patient, and in most instances has the assistance of a resident or visiting district nurse. Very few of his patients have no nurse. Reasons have been given why the resident nurse is in every way preferable to the visiting district nurse.

The great majority of confinements take place in the patients' homes, and it is necessary to adapt one's technique so that the parturient woman may derive the greatest benefit therefrom under housing conditions, which are not always up to modern standards.

A description of 488 cases conducted over a period of eight years (1927 - 1934 inclusive) has been given. These cases have been analysed in various ways, and a description in detail has been given of 23 cases of interest.

Suggestions have been made as to future developments in rural midwifery, and the outline of a scheme has been drawn up, in which it is pointed out that in order for the standard of midwifery work to improve, all those concerned must play their part to the utmost of their ability.

Conclusions.

1. To a very great extent, the sound health of the population at large is dependent on the sound health of the individual.

2. In the first place, the sound health of the individual is dependent on a "good start in life."

3. "A good start in life" is dependent on the sound health of the child-bearing woman.

4. To a very great extent the sound health of the child-bearing woman is dependent on sound midwifery, ante-natal, intra-natal and post-natal.

5. Sound midwifery, ante-natal, intra-natal and post-natal can only be obtained by proper co-operation between all those concerned, viz. the public health authority: the general public: the child-bearing woman: the medical practitioner and the maternity nurse.

6. The Public Health authority can assist by a general improvement in housing conditions, by the provision of labour units as described, by the provision of a resident maternity nurse for each case and by the provision of sterilised maternity outfits for each case.

7. The general public can assist by a realisation that maternity work is of prime importance and should be primarily in the hands of the medical profession.

8. The child-bearing woman can assist very greatly by the early notification of pregnancy to her family doctor.

9. The family doctor, who should have a thorough knowledge of the obstetric art, should have continuous personal charge of the child-bearing woman during her ante-natal, intra-natal and post-natal periods. In every case he should have the assistance of a well-trained resident maternity nurse.

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7. The Registrar-General's Statistical Review of England and Wales for the year 1930.
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